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CONVENTION OF CITY AND BOROUGH SUPERINTENDENTS.

PROCEEDINGS OF TWENTIETH ANNUAL MEETING.

THE twentieth annual session of the Department of City and Borough Superintendents of the Pennsylvania State Educational Association met in Harrisburg, Tuesday and Wednesday, February 8 and 9, 1910. The caucus room of the House of Representatives was the place of meeting except on Wednesday evening, when the joint meeting of City, Borough and County Superintendents was held in the High School auditorium. The caucus room was well filled at every session with the eighty-eight enrolled members and others.

Devotional exercises were conducted by Rev. S. N. Kremer, of the Reformed Church, Harrisburg, after which the president, Supt. Grant Norris, made the annual address.

PRESIDENT'S ADDRESS—EDUCATIONAL TRENDS.

It would seem that everything in the universe exists by virtue of its relationship to something else. The earth and the other planets, sun, moon, stars, constellations and systems, are maintained in their regular orbits and go on in their regular courses during years without number "without variableness or the shadow of turning." A single irregularity in anything affects everything else, as a pebble or a mountain thrown into the sea affects its waters to the farthest shore. In proportion to the perfection of organization and systems, things move regularly or irregularly, with friction or without friction, in their respective orbits, and perform functions corresponding in grades of value. The Divine Mind has a perfect conception of everything, in consequence of which "All His ways are ways of pleasantness and all His paths are paths of peace," and "The wayfaring man, though a fool, need not err therein." His millions of prodigal children have for centuries upon centuries been on pilgrimages of pillage, plunder, aggrandizement and power, only to end up at the close of their threescore years and ten in defeat, stripped of booty and acquisitions of blood, leaving the world as they found it. They brought nothing in; they take nothing out. The world is still all here. This is comforting to know in the midst of the hurly-burly, hustle and bustle, planning and praying for the essentials of life; and also that the converse is equally true. The world will all be here when we, the greatest people on earth, depart for that undiscovered bourne whence no earthly traveler, save One, has ever returned. In the midst of this thought we can but feel like the smallest of pigmies playing on the sands of the seashore, building our homes, our towns, our castles, not knowing what little disturbance from the waves or from the fiery depths will destroy our city, devour our children, upset our schools and churches, disrupt our plans, and even block the intentions of a National Educational Association to enjoy our hospitality. No, the ways of system and perfection are as firm as the everlasting hills. The fortress of Gibraltar is reputed to be the world's strongest military fortification. From every available point it bristles with artillery. Batteries are hewn in the rock in every direction. For over twelve hundred years this cannon-crowned rock has been the object of international envy. Around it ever since the days of the Saracens the thunder of battle has roared. Africans, Arabs, Castilians, Moors, Englishmen, have in turn been its possessor,

showing that this impregnable rock, made so by men, is not impregnable to man, and in using the word *man* I mean MAN, and the man-stuff that has brought this world with its improved governments through storms and battle to the place where it can appreciate the chastity of home, the virtue of a flag, the honor of labor, the worth of schools, the wisdom of churches, and the sacredness of life. In vain does any nation boast of her advanced civilization, of her illustrious warriors, her orators, poets and philosophers, her men of genius and renown; in vain does she ascend to the summit of aggrandizement and power; in vain does she extend and strengthen her alliances and intrench herself amid strongest fortifications; in vain does she multiply her resources and augment her armies; in vain are her arsenals crowded with arms and stored with ammunition; in vain do her navies thicken on all the seas and her flag float in triumph from towers of hostile cities, or cast its shadow over conquered realms; in vain, I say, if after all, within that nation we find a people to whom truth has never revealed liberty; to whom liberty has never revealed responsibility; and to whom responsibility has never revealed accountability to man, to society and to God. The government of such a nation is but a despotism, and her subjects are but bondsmen still.

The trend of civilization may be found in the trend of education; and the trend of education has been ever and anon to bring man to a higher appreciation of his responsibility and worth, and to fit him into his niche where he will be an important part in perfecting society, governments, and the products of the world. It is hard, it is very difficult, to break away from the lichen-laden dogmas, superstitions, usages and customs of the past, and to do the things that are essential to efficiency in all endeavor. The educational trends have been, and are to-day, for more complete living, more efficient living, and to bring a person to a point where he will be of the greatest service to his home, to his community, to his country and to the world. This, as we know, has not been brought about in a year, in a decade, in a century. As the physical maturity of man takes longer than that of any other animal, so it would seem that his rational and esthetical development take a correspondingly longer period of time. Already many thousand years have been spent on his development, and who is not willing to confess that he is still in a rather imperfect state, in consequence of which we have this meeting, and will continue to hold meetings for self-improvement and to adjust ourselves to the onward march in conservation of our resources and in the care-taking of ourselves and of our children. History is replete with its beacon lights, with its men who stood in advance of their times and age, with its men crying out in the wilderness to get ready, to prepare to quit ourselves like men, to stand in the breach and to close up our walls against ignorance, suffering and death. In the sixteenth century we were bound down with formalism, conventional rules and ceremonies, until Luther with his theses on the door of the church of Wittenburg shook all Europe from the Baltic to the Mediterranean. In the seventeenth century a strange spirit lighted upon these shores. Friendless and fugitive it threw itself upon the hospitality of these lands. The history of this spirit is but the history of the crimes of Europe. But here among our rolling prairies, waving woodland and vine-clad hills it has found an abiding asylum where to-day liberty smiles in every sunbeam that gladdens our hilltops and whispers in every breeze that revels through our vales. In the eighteenth century another step was taken which culminated in personal responsibility and personal accountability, one of the great exponents of which was John Wesley. In the nineteenth century Dwight L. Moody looms up with his message of love, stirring millions to a higher conception of life and a fuller realization of duty as related to the brotherhood of man. Judging from the progress we have made, and from the present trend of affairs, the twentieth century is destined to be a century of love, sacrifice and service. To recapitulate, then, I might say that the sixteenth century was a century of Faith; the seventeenth a century of Faith and Freedom; the eighteenth a century of Faith, Freedom and Personal Responsibility; the nineteenth a century of Faith, Freedom, Personal Responsibility and Love; and the twentieth century a century of Faith, Freedom, Personal Responsibility, Love, Sacrifice and Service. Our schools and our churches have been at the bottom of this evolution, have been the leaven which is destined eventually to leaven the whole lump. Here we are, then, with our faith, with our freedom, our responsibility, our love, our willingness to sacrifice and serve, going on to greater faith, greater freedom, greater responsibilities, greater love; giving impulse, creating desire, augmenting ambition, opening the mind, refining the manners, firing the imagination, strengthening the morals, and bringing the millions to a point where they will be of greater service than they would have been without our help.

It would seem that we are coming to

realize more and more the need of relative standards of value in our educational curriculum. Our lack of standards of relative values has caused many of us to flounder and to make non-essentials essential, and essentials non-essential. Our ears have always been open to the whispered admiration of the crowd and frequently closed to the voice of the impoverished soul. All of our school curriculums are made out for a race of celibates in which we find nothing about motherhood and fatherhood, the duties of home, and the care of children before they reach the school age. The first six years of a child's life are of greater importance to that child than the next six years, and yet countless millions of children during these six years are marred for life, physically, mentally and morally, and other millions are hastened to fill untimely graves. To-day we are losing half of the human life of the world in rearing the other imperfect half. We rejoice to-day, however, that educators and men who have made this a study are coming to the rescue. Kindergartens are being established to assist between the ages of four and six, and parents are being educated in the care and nurture of children. It is awful when we stop to think of the neglect of children and babies which we can observe from day to day in the small sphere of our own activities. Children who might make good strong men and women are destined to go maimed through life on account of neglect, and the ignorance and indifference of parents and would-be professional men and women. Better a millstone about the neck and a final plunge into the sea than to offend one of God's little ones!

Second, then, is the care that is being given to the continuance of health during and after the school life. No school building is planned to-day without due consideration to sanitation and the comfort of pupil and teacher. In place of dark gloomy walls we have found out that light colors give more cheer and better light; properly constructed heating and ventilating systems are fast being installed; plenty of fresh air is being furnished in all of our modern school rooms; seats are so adjusted that the feet of the little dear ones no longer swing six inches above the floor, but rests are provided when a seat cannot be had that is low enough; health authorities are becoming alert in maintaining quarantines and in battling against contagious diseases; gymnasiums are being established, and athletic fields provided for out-door sports. But not enough has yet been done. We have been slow in looking out for the first fundamental in education, that is, self-preservation. Scarcely can we find a man in middle life to-day who has not brought upon himself unnecessary pain which a little knowledge, a little care and a little common sense might have saved him from. May God speed the good work of medical inspection of our schools, clinics, and every move that will help to bring our children to a normal condition in health. In many cases if nature even could be let alone it would provide many a child with the means of self-preservation and self-development. The best we can do is to assist nature in repairing itself when nature's laws have been violated. The evils of confinement and neglect of children are found in the homes of our rich as well as in the homes of our poor. Why do we house up our children like house plants, depriving them of all the joy and pleasure of association and play, of contests, victories and defeats, of earning money, of spending money, of saving money? I do not know the answer unless it is in anticipation of the great "coming out" day, when they shall be introduced to the world, into society, and later into the newspapers, and possibly into our courts.

Third: The trend is to do more sensible things for our children. We are looking for standards of relative value. The questions, "Which is the more useful, fire or water?" and "Which is more nutritive, bread or potatoes?" were settled by our fathers in the country school debating clubs. I have always been thankful for those country school literary societies, and I wish we had them in every system of schools to-day. But the question we are trying to settle now is the relative value of this and of that in our curriculum. We are slowly but surely getting away from the education for appearance. Our trend is rather to cultivate the mind than to store the memory. On this Bacon said, "Our studies should be neither a couch on which to rest; nor a cloister in which to promenade alone; nor a tower from which to look down upon others; nor a fortress whence we may resist them; nor a workshop for gain and merchandise; but a rich armory and treasury for the glory of the Creator and the ennoblement of life." To use our studies for ornament is nothing more than affectation. Latin and Greek sound well to the would-be educated mind, but after all they are but an outward decoration, an affectation to many of us, and without any practical value. The man to-day who quotes Latin or Greek in his discourse, does it more for effect and display than to elucidate and make clear the subject in hand. Not all of us, not many of us, a very few of us, will ever become translators of past languages. We generally read our Bibles

according to the King James' translation or the Revised Version. Some, of course, read the original in order that they may get the original aroma of its meaning and in the essence of this aroma sit down and dream, while the man with his translations, mathematics and science is erecting bridges, tunneling mountains, building sub-ways, erecting gigantic mills, covering the continent with a net-work of steel, and counting his cattle on a thousand hills.

Fourth: The schools as never before are considering the intrinsic effect of the curriculum on the child and on the community. The child should be able to become a bread-winner; he should be educated to be self-supporting and to support a home where he can give back to the world, in other children, the good things he received without money and without price. No man is of any use to this world who cannot earn his own living. Many there are who do not, and many who cannot. Just what should be done with them I am hardly able to say. Of course, we are keeping some of them in jail where they will do as little harm as possible with their misdirected minds, money and plunder. This ultimatum, however, we are trying to avoid by arousing the aptitudes of all classes and by helping them to find a niche where they will fit and be of service to themselves, to their homes and to the state.

Fifth: Beyond the bread-winning willingness and ability the schools are teaching another duty and that is the duty of service and sacrifice. No man, no nation, can live by bread alone. Upon this reef may be found the wreckage of an hundred nations. While meditating in the wilderness for forty days and forty nights the Great Teacher announced the fact to the tempting world. The thought of being able to make more money with than without an education is invigorating and inspiring. But, thanks to them that are wiser than we, we teach not only how education may be turned into money but also how the moral and intellectual fiber may be tempered and tested for life's activities. The large majority of students who understand sine, cosine, differentiation, and the Greek verb, never use them in after-life. But what of it? Is there material compensation for every action of the brain or impulse of the heart. No, and what a blessing there is not.

The restless mind of man seems to be ever active, impelled by the past, nourished by anticipation of the future. Above and beyond our present environment we see an Eldorado of peace and plenty, and the rock of our hope which by smiting will burst forth into abundant streams. The path leading forward in the direction of our hope is fraught with difficulty. Unless nobility of manhood be maintained ignorance and poverty were better than success.

Sixth: More attention is being given to science each year. This is as it should be. We have been too slow in recognizing its importance as compared with other studies. There is no phase of education in which science, either directly or indirectly, does not play the most part. The preacher, the lawyer, the teacher, the doctor, the mechanic, the business man, the farmer, the laborer, can credit more of their success to science than to any other branch of education. Argument for science in our curriculum may be found in an article on education by Herbert Spencer.

Seventh: The cry to-day is for greater efficiency, higher standards, closer supervision, better organization, greater unison and less waste of time and energy. Certainly there is much room for improvement, there always will be room for improvement, and we are perfectly justified in being dissatisfied with the past, but we must remember that without the past we could not possibly be where we are. So in place of using up our energy in setting up past mistakes and then knocking them down, and crying hurrah for our side, let us be thankful for its goodness and from its lessons improve the present. Any fool can find things to criticise, but it is the wise man who can bring order out of chaos and cause the barren fields to blossom and bring forth fruit. Greater efficiency in teaching is bound to come. The requirements of each and all professions are higher than that of teaching school. The preacher must have his academic education at least, and then a professional training in theology. The lawyer must have the equivalent of a high school education and then his training in the profession of law. The physician must have the equivalent of a high school education and then four years of college work. The druggist must have the equivalent of a high school education and then four years in the college of pharmacy. The engineer, the draftsman, the mechanic, the stone mason, the tradesman, must pass through years of training and apprenticeship before he is regarded master of his trade. But how is it with teaching school? The large majority of our teachers have but a common school education. The profession of teaching, so far to many of us, has been but a sorry trade. It has been made too cheap. Because a quack doctor wants to doctor my child and is in need of money is no reason why I should intrust him with my child's life. To save the child I must have professional service and conditions should be such that professional service

would be available even at the cost of a hundred dollars an hour. No longer do wise parents want to intrust their children to quack teachers, to teachers unprepared, to teachers who have never spent any money on their education save the taxes paid by parents, teachers who have never pursued a professional line of study, teachers who do not attend educational conventions save those for which they are paid, teachers who work by the clock and stand waiting for pay-day, teachers who know little if anything of child life, its heart throbs and heart aches, but handle children as so much merchandise, not even considering it breakable material.

Finally: It is hardly necessary to mention recent advance steps emanating from the Department of Public Instruction. The high schools of this state are now being classified and brought to a higher standard of efficiency. The elementary schools are doing a work never before equaled in the state. The normal schools are rapidly adjusting themselves to the training of teachers. Colleges are now offering courses of study in all lines of endeavor and are careually getting away from the old notion that bachelor of arts means first, last and always Latin and Greek, with whatever else the student happened to elect. New laws are being enacted for the advancement and welfare of public education. Some of us must remember that great institutions do not spring up in a night. But a night is time enough to grow a mushroom. It takes hundreds of years to grow the giant of the forest which shall stand against the wintry winds and the storms of time. The new school code was prepared at great labor by representative educators and citizens of this Commonwealth. We had hoped that it would become a law. It seemed comparatively easy to authorize and appoint this commission. The results of the two years of arduous labor were finally placed in print and submitted to the law-making body and to the people. It was studied by a thousand different minds, each viewing it through the eyes of his local community. Its ramifications were many and varied and thoroughly understood and appreciated by the learned commission, but it was a big morsel for many of us, and we are still masticating and chewing at it, and I believe that within a very few years we shall be able to swallow it, digest and assimilate it in the bone and sinew of our educational system. No greater work has been done in the last fifty years for the schools of this Commonwealth than was done by this commission.

The course of a feather may be changed by the breath of an individual. Worlds, governments, civilizations, institutions, do not spring up in a night, but are evolved through the combined action of all the forces and processes of nature, sometimes taking centuries and years without number to form, to complete, to perfect. Every year in the history of the school system of Pennsylvania has marked an advanced step. Men at the helm have ever been alert to the needs of the times, fully realizing that,

> "New occasions teach new duties,
> Time makes ancient good uncouth;
> They must upward still and onward
> Who would keep abreast of truth."

Truly in the educational world the fields are ripe unto the harvest, and he is wise with wisdom more than that of earth who teaches not only that which has been established, but takes the lead in making new discoveries and in bringing the inquiring mind to realize that but few things are known in comparison to what is unknown. In comparison as we use the known in reaching the unknown will interest be increased, desire augmented and worthy acquisitions realized.

Emerson says, "Why should we grope among the dry bones of the past or put the living generation into masquerade out of faded wardrobes? There is more wool and flax in the fields. There are new lands, new men, new thoughts."

EDUCATIONAL TRENDS.

Supt. C. J. Scott continued the discussion of this subject. He said:

Our subject limits the discussion to actual existing movements in the educational world; not things as they should be, but as they are. A discussion of educational trends is a recital of present happenings, not a plea for things hoped for. Likewise should this discussion be confined to tendencies in the policies and advancement of our public schools—not of other institutions of learning.

The most gratifying realization of the present day is that we *do* have pronounced, decided trends in education. Trends that will secure to the children of this Commonwealth advantages not yet equaled for richness and for opportunity. Every school man who is close to the heart of things knows that to-day is the most transitory period in educational affairs in the last hundred years. The rapidly growing and changing past has brought us to a crisis that makes the present a momentous period that should give us profound pause to the end that we realize and understand our problems and err not as we rush on with the fast moving events.

I cannot take time to show you the present situation in the light of all trends or

movements leading to and causing it. It is sufficient to recall that not long ago domestic industry flourished and every home was a workshop. Then daily needs and experience were the chief means of an education. Since then the whole nature of our life has been changed. To-day that work-a-day life is a closed book to most of our youth. The apprenticeship system as a means of education is gone. A great social awakening and industrial experience is at hand. To-day the world and not the community is the youth's field of outlook. The small merchant and employer is passing. Labor is being specialized. It is increasingly difficult to become an employer instead of an employee. The nature of our population has been changed through immigration. Religious work does not attract and hold the youth as formerly, when the conviction of the elders of the community, and the home with its homely duties restrained and gave earnestness to young life.

What a change in our generation for us to meet! What a demand for an *increase* in knowledge necessary to enable one to meet these conditions of modern time. How different must that knowledge be to meet this different life. Such a revolution in our industrial and social life demands a revolution in our educational life. The old curriculum formed for disciplinary purposes can no longer meet changed conditions. New subjects must be added. This is so because to-day the chief demand is that the school train toward usefulness and for social service.

Such being the end and purpose of our public schools we realize that, though our schools are paid for by the masses; they do not grant universal education nor do they train efficiently for efficiency. From these two general considerations are evolving the educational trends of to-day, the movements to offer universal education and to train for efficient service the youth of our land. Our education is not universal because the curriculum ignores the immediate and personal interests of the common man. All youth is largely taught with reference to professional life—law, ministry or medicine. Five per cent. enter these professions, ninety-five per cent. enter other vocations. That ninety-five per cent. receives no special stimulus, its education does more to create dissatisfaction with than to fit it for its work—the world's work. The effect of our courses of study is not to enrich all lives and to advance all civilization *equally* but to draw from all work and walks of life into a few occupations, and thereby to leave a great mass of human knowledge undeveloped, neglected, and most of the work of men untouched by the vitalizing and illuminating energy of learning. Most labor is undesirable to the graduate because it is undeveloped by science and education.

Education gives not the proper uplift to the great working world, and the effects are detrimental to the worker, to the work and to society. Are not the masses right when they protest, "Society is not being properly served"? Then universal education is our problem and happily our educational trend.

Important is it to recognize that this recent trend is taking two directions. One is to broaden the scope of our curriculum and with our cultural subjects offer vocational training. The other direction is to establish trade schools, separate and distinct from our high schools. And to ask boys at about the age of fourteen to choose either a cultural or an educational training. This plan has seemed to many the most direct and best to meet society's demand of our schools.

The working mass of people see, though paving for our schools, that we took their children and after about twelve years returned them dissatisfied with and unfit for labor. Not that they want them satisfied through ignorance of other paths but because of their conception secured of the dignity and usefulness and even beauty in worthy service. To-day they demand efficiency in our graduates. Their demand will be met. We must grant universal education. How shall it be done?

Just here is the crisis. Should our schools remain indifferent to the broadened demand for a wider curriculum and new subjects, for a complete change in our present policy and aims, a new industrial system will develop, says one writer, that will draw both numbers and money from the support of our present system, and will leave our schools merely girls' schools and preparatory schools for colleges.

Should such a system be established, then will our educational system be undemocratic and un-American, a system tending to divide our people into two classes, one wholly industrial the other wholly cultural; a system that is cursing the countries of the old world to-day. At this juncture of our growth nothing less is at stake than the preservation of the great moulding influence of America's public schools toward democracy. They have served as a melting-pot where children of all nationalities, from all walks of life, have been fused into one distinctly American product. Here have children of the rich and poor, the prominent and obscure, met on equal footing, with equal opportunities, where nothing but merit distin-

guished their standing, and from whence all went with an understanding sympathy for each other to strive to win high place in the world.

If we maintain this position of our schools then must education remain under one control and in harmony. Let us have many subjects with freedom to elect that different aims and capabilities be served, all taught under the same system; all industrial education combining the cultural and all cultural training balanced by a knowledge of industry—a system to make for unity and efficiency and democracy.

We must not have on the one hand a trend toward a system that "trains a boy for a shop or farm in such a way that he must stay there all his life and while staying there have no vision or appreciation of the world of thought and culture"; nor on the other hand, a trend toward a system that educates not for social service, that teaches not that all work, farming, building, all mechanics are professions as well as law, medicine and theology. The trend toward a universal education must be toward one unified, democratic system of educational training, for efficiency to do the world's work and to meet society's needs.

The cultural education needs for its own good an insight into and sympathy for other paths of effort. The industrial education needs for its own uplift the broader vision and the opportunity to meet on equal footing any other kind of an education. Then should our curriculum require of all pupils the completion of nearly the same courses of study, all working in the same scholastic atmosphere and in the one system. With the establishment of such a system, let us urge on the beginning movement of our colleges to accept for entrance whatever and all that the youth does either in vocational or cultural studies.

As a result of the two-fold trend toward the development of efficiency in the operation of our schools and in the efficiency of our product to work and to serve one's fellowmen, we have arrived all too slowly at the conclusion that bodily excellencies, physical soundness, counts for much toward this successful result. Such a conclusion plainly demands that we make our schools educate the whole child and not merely the "expanded bulb at the upper end of him." If we are to train our pupils for action and service and not for mere culture and display then we must make him physically fit. Children with defective vision, hearing, teeth and breathing do not make efficient citizens neither do they make for efficient operation of our schools when a physical defect causes a pupil to repeat his year's work at an expense to the district of about $20 when $5 will remove the cause and enable him to advance.

Why a continuance of such a short-sighted policy and an inhuman consideration in even the smallest and poorest school-district in Pennsylvania? On every hand is abundant proof of the large returns in human happiness and opportunity for every few dollars—yes, few cents—expended in medical treatment.

It has long been the practice of small school communities to raise some money by different entertainments to buy for their school a flag. Why not by the same means or similar ones secure a few dollars to save to a useful, happy career some distorted life. Better would you serve your country's flag in this way than by floating it as a symbol of equal opportunity to all.

May our state hasten on its way to make possible and compulsory medical treatment of defectives. But in the meanwhile let not the cities alone find other ways to do this but let the borough and hamlet and rural community do likewise. Why will not this body of superintendents, with their power to create public sentiment, so arouse our communities that our state legislators dare not at their next meeting refuse or neglect to create a law for medical inspection of our public school pupils?

This trend toward efficiency should not end with physical soundness but should extend to the efforts of every elementary teacher to train and upbuild the bodily senses and the care of the body. Quickness and accuracy in all the senses, sight, hearing and touch, are of great value to the individual throughout life. Often success and superiority are attained through a keenness in one or more of these senses. This sadly neglected work is now gradually spreading to more and more courses of study and will continue to increase in its demand upon our attention as an important force toward development for efficiency.

Furthermore, may we bless the modern good teachers in their putting away as folly the former ideas held as to the many conventional sins and misdemeanors of pupils. Child study has shown their unreality. Many of the formerly so-called offences are evidences of worthy qualities and many of the traditional virtues are evidence of unworthy qualities. The growing tendency in teachers first and above all to understand and to know the child, is as praiseworthy as any advancement made in recent time. We are learning that teachers must seek the cause of a pupil's lack of progres and find a remedy.

There are many movements toward the forming of this capable product of our schools. Not the least is the growing ten-

dency to view education as the ability to sit down and think, to concentrate attention, cultivated through attempts to form judgments, to weigh evidence and to make comparisons. Significant indeed is the present movement *to teach pupils how to study* that these ends mentioned be served. The live school-man sees in this newly-realized function of the school a means whereby to change the emphasis of instruction, a way to teach pupils to think independently, to know how to use books, how to select essentials from the non-essentials, and to grow thereby. It is gratifying information to learn that in many places teachers are receiving definite, clear-cut instruction in teaching children how to study. From this movement we may rightfully expect far-reaching effects.

Education to-day more and more tends to link the life in school with the life out of school, to place our boys and girls into right attitude toward all life and all endeavor, with capacity to see the beauty and its purpose.

From among the many present trends, I select that of our effort to train our youth to seek that higher social development of community and national life, as the closing thought of this discussion. The new education seeks to shape the child in the light of his daily duties and living, as the teacher beholds him in imagination moving among his neighbors, performing his commonplace duties of citizenship. Every borough and city has its peculiar history of growth, has its own geographical influences and its own civic problems. It is the duty of the school of that community to teach these clearly, to the end that these graduates imbued with ideals and guided by accurate knowledge go out capable of intelligent citizenship. Let us give less attention, if need be, to state and nation and more to the immediate community, its needs, its possibilities, its sanitation, its beautification, its wholesomeness in administration, its capability to administer to the uplift of all its inhabitants.

Citizenship pleads and common sense urges that we give less time to ancient customs and more to present customs, less time to the subsistence of dead races and more to the present conservation of our own. The present high prices of food and the meat-boycott and consideration of domestic economy are more vital than the rations of Napoleon's army. Let us not feed our youth on the husks of things that were, in an attempt to quicken mental growth when living issues are ever at hand.

The linking of the life in school with that out of school will furnish a zest, an earnestness and a specific purpose to study, that will give to our schools a new place of influence and service to society even though it does change greatly our present and all too self-satisfied system. The growing importance of our schools in the affairs of our national life is making of teaching a distinct and favored profession. Higher and broader scholarship, professional training, keener minds and deeper sympathy are ever increasing demands upon its members. The public is being awakened to our shortcomings and to our needs as well as to the significance of our contributions to their welfare.

Educational campaigns are going on throughout our land. That is a trend to urge. Kentucky had on one Sunday five thousand sermons upon education, and one hundred and nineteen counties held mass meetings to discuss schools. It behooves us all to create public sentiment rather than leave such work to the destructive yellow criticisms of many present magazine writers on "What Is The Matter With The Public Schools?"

United and alive we must see our defects and solve our problems, and push on, remembering that it should be the organized effort of our state to make a better citizen, giving in the fullest measure character, physical soundness and knowledge to all who seek their education at our hands.

THE RELATION OF PHYSICAL DEFECTS TO SCHOOL PROGRESS.

Dr. Leonard P. Ayres, associate director of Child Hygiene, Russell Sage Foundation, New York, presented this very interesting and pressing question to an attentive audience.

He said that a familiar development of modern business life is the trade in newspaper clippings. Every day for three years clippings on educational subjects are furnished to him. During the last three months there have come a number of clippings on medical inspection in Pennsylvania. The newspapers have been publishing such material for three years, but in the last three months there has come a change in their tone. Three years ago their attitude was generally hostile; to-day they cordially support it. In the editors' minds, at least, medical inspection has made good.

We used to think children's diseases inevitable. Tuberculosis was incurable. We said, "Children are all expected to have the measles." If Jenny breathed through her mouth, we said it was her habit. But times have changed, as a result of the great wave of interest in childhood which has swept over the whole world. Public schools are now regarded as public trusts. Parents are

now demanding that the schools shall give them back their children as good physically a they received them.

Many children are backward on account of defects which can be remedied. If education is obtained at the expense of health, the children had better do without it. We no longer sing,

"Diseases are Thy servants, Lord,
They come at Thy command."

Children are not defective as the result of inscrutable law. We must find the causes and remove them.

Dr. Ayres said that during the last few years it has been his business to find the causes of children's diseases, determine their relative importance, and discover remedies. Last summer there was made a careful study of the school history of 16,000 children who graduated from the eighth grade in New York. The school records supply every fact of importance, educationally and physically, concerning every child, covering the entire period from the kindergarten to the eighth grade, inclusive. Some things were discovered about the relation of physical defects to progress. All will admit that one cause of backwardness is absence. One cause of absence is illness. An examination was made as to what diseases caused absence from school. The following was the result: Measles, 2,108; Scarlet fever, 1,550; Diphtheria, 1,102; Pneumonia, 621; Whooping cough, 473; Chicken pox, 387; Mumps, 288; Tonsilitis, 251; Typhoid, 219; Rheumatism, 200; Malaria, 150; Other diseases, small numbers. It will be noticed that the first three cause more than one half of all the absence from school, and are therefore an important cause of retardation.

There has been a good deal of talk recently in New York about the relative health of boys and girls, some people claiming that girls are more robust, because of better physical habits. We found that of the absence of boys and girls on account of illness the results were: Boys, 43 per cent.; Girls, 48 per cent. Viewed in the light of the relative amount of time lost by each on account of illness, it stood: Boys, 3.2 months; Girls, 3.5 months. In New York, therefore, fewer boys are absent than girls, on account of illness, and they lose less time.

The children in the grades may be grouped into three classes:

1. The child who does eight years' work in less than eight years, and whose progress is *rapid*.

2. The child who takes eight years for the eight years' work, and whose progress may be called *normal*.

3. The child who takes more than eight years for the eight years' work, and who may be called *slow*.

We tabulated the diseases on that basis, to see if there were diseases more prevalent in any of these classes of children. We found that *normal* children have few diseases; and that of the diseases mentioned below the *rapid* and *slow* children suffered equally, and more than the *normal* children. The *slow* children are the chief sufferers from accidents.

Every school child in New York is examined each year by a physician. I made a study of the school history of 15,000 children of all grades. These were classified on this basis: Normal advancement, and Retardation. Of the children of normal age, 80 per cent. were found defective in some particular. Of the retarded children only 75 per cent. were defective. This surprised me, and I retabulated by ages. Interesting and definite results were then achieved.

The following table shows the percentage of defects of various kinds at six and fifteen years.

Defects.	6 years.	15 years.
Glands,	40 per cent.	7 per cent.
Breathing,	21 per cent.	9 per cent.
Vision,	17 per cent.	26 per cent.
Teeth,	65 per cent.	31 per cent.
Tonsils,	40 per cent.	14 per cent.
Adenoids,	23 per cent.	3 per cent.

This falling off in some of the figures is the result neither of leaving school nor of remedial treatment. Except in the case of defective vision, the defects diminish. Since making this chart German and Tasmanian investigators have arrived at similar results. We have now found why retarded children have fewer defects—they are older.

Children may outgrow defects, but they do not outgrow the effects of the defects. Dr. Whitmer, of Pennsylvania University, examined a boy eleven years old, who had never spoken a complete sentence in his life. His adenoids were removed, and he quickly got the ability to make sentences. But he will never recover the lost time. Bad first teeth are replaced by good second teeth; but the effects of the bad first teeth, in bad digestion, will never be overcome.

I retabulated the ten-, eleven- and twelve-year-old pupils on this basis. If an eleven-year-old pupil is in the seventh grade he is backward. If he is in the eighth grade he is bright. I computed the average number of grades the children had completed, and found it to be four. I then determined the average number of grades completed by children with various defects, as follows: No defects, 4.9 grades completed; defects of Vision, 4.9 grades; Breathing, 4.6;

Teeth, 4.7; Tonsils, 4.5; Adenoids, 4.2; Glands, 4.2. The relative importance of the different defects is at once apparent.

Calculating the percentage of handicap which defective children suffer when compared with normal children, we have the following: Vision, 0 per cent.; Teeth, 6 per cent.; Breathing, 7; Tonsils, 9; Adenoids, 14; Glands, 15; Average, 9 per cent. Of course, defective vision is a handicap, but the figures don't show it. It is probable that this is because the bright children with defective eyesight, and dull children of the same kind balance each other, and so do not appear in the statistics.

As to the relation to defects and the time required to complete the eight years' work of the grades, we have the following results: No defects, 8 years; Vision, 8 years; Teeth, 8.5; Breathing, 8.6; Tonsils, 8.7; Adenoids, 9.1; Glands, 9.2 years. Half the children have seriously defective teeth and enlargement of glands; one in seven has defective breathing; one in four defective tonsils; one-eighth of all children suffer from adenoids. These figures may be too high for small cities, but they are probably correct for all crowded cities.

We might go so far as to compute the cost of physical defects to the State. Pennsylvania spends $32,000,000 yearly on schools. If no defects are remedied, $2,600,000 are wasted in the hopeless attempt to teach physically defective children who cannot profit by it. It is dangerous to trust to these figures, but they make us think. In Germany, to keep each child's teeth in good condition costs 25 cents per year. Here it would cost a little more. But it is clearly financially better to remedy children's defects than to pay the increased cost of education.

School nurses are the best financial investment which cities have yet made. The school nurse saves from three to five times her salary. Often in persuading parents to have adenoid operations alone, she saves three or four times her salary. The nurse is the best link between the school and the home. The indirect results of her work are far-reaching, especially among a foreign population.

The class-room teacher can do little but tactfully insist on the care of children's physical defects. In Massachusetts the teachers examine the children's eyesight and hearing, and generally secure results in cases of defects. The fundamental principle, if medical inspection is to secure good results, is that it must be hitched up with the school machinery. If outside persons conduct the inspection, the interests of the two organizations are separate. Of course, in Massachusetts, the examination of a skilled physician is better than any performed by a teacher; but the interest of the teacher is aroused, when he conducts an examination. If teachers knew *why* children were lacking, often their entire attitude toward those pupils would change. The lasting interest of the school people is indispensable if medical inspection is to achieve its best results.

I do not like to criticize, but in New York the examining physicians are responsible to the Board of Health, and are regarded as outsiders by the school people. The results show that out of 16,000 children graduated from the eighth grade last June in New York, each of which should have been examined six times, nearly half had been examined only once; one-fourth were declared not defective, of whom one-eighth were treated for defects and the remaining eighth received no treatment.

If you wish to do but one thing, what should it be? Keep a sharp lookout after contagious diseases in the schools. If you wish to do one more? Look after defective teeth. Adenoids generally accompany them, and disappear when the teeth are fixed. If a third? Find out the cause of mouth breathing. Adenoids will not account for all such cases.

The lesson we can get from all this is: We cannot get rid of the whole problem of the backward child by throwing the responsibility on the physician. Physical defects have their bearing on the problem. The new school hygiene has before it the conservation of the physical soundness of the child. The school physician makes the lives of many a child brighter and happier. But the royal road to learning is not the surgeon's knife. Removal of adenoids does not save millions, nor cut the term in half. The old-fashioned virtues of industry, regularity and the like still hold sway. Laziness and late starting are still the causes of much retardation.

GENERAL DISCUSSION.

Supt. Missimer said there is no doubt that a large part of the retardation of the pupils is due to physical defects and epidemic diseases. There should be a complete system of medical inspection of schools, under the control of the board. But if half the children are in the parochial schools, what then? Medical inspection is futile if not followed up. If the treatment of physical defects is left to the discretion of parents, in many cases nothing will be done. If left to charitable organizations, action will be spasmodic. There is no way to follow up medical inspection except at public expense. Last year in Erie, 1,200 children missed fifty days each on account

of an epidemic of measles. Much retardation resulted. Medical inspection might have prevented this condition. But medical inspection cannot prevent the spread of measles, which are caused by atmospheric conditions. There are social conditions which cause diphtheria and scarlet fever—filth, bad air, poverty, insufficient food and clothing. Another reason for the absence of children from school is the economic one—want of food and clothing. Who is responsible for the special legislation which gives one class of people a better chance than others? Is there remedial legislation which will enable people to live by reducing the cost of the necessaries of life? Is there any legal remedy for those methods which transfer the wealth of the many into the hands of the few? This is one cause of retardation. We cannot, however, eradicate one cause of retardation. The dull child will remain with us. There are children of iron, glass and gold parents. We cannot ignore heredity and nationality in this matter. It is no burden on the community that the slow child takes so long to do his work. It is his right. There is considerable retardation due to poor teaching, and some due to the lax interpretation of the compulsory law. The law fixes 70 per cent. of the term as the minimum limit of attendance, and yet many children remain out of school for trivial reasons. When you try to enforce the law, some fellow is fined and the fine remitted. The second condition is worse than the first.

Supt. Foos said that Supt. Missimer wished to cure the cause rather than the effect. His experience was that in curing the effect he reached the cause also. At present every pupil in Reading is examined twice a year by a dentist. We must not expect to do everything at once. If by present methods one pupil out of ten is reached, we ought to go right ahead.

Mr. Ayres: We have tried hard to find out what per cent. of the children in the United States who need special treatment have received it. When medical inspection was first introduced, only ten or fifteen per cent. of the defective pupils received proper treatment. This is when the parents are supposed to see that the children receive treatment. If in Harrisburg one child out of three receives proper attention, the city should be congratulated. Medical inspection will become more efficient when we have good school nurses. Directors and teachers cannot follow up cases as nurses can. Often entire households are reformed on account of the nurse's visits.

Dr. Schaeffer: Are there free dental clinics in Reading?

Supt. Foos: The dental association assigns a certain dentist to each school. He examines the children's teeth, and gives a chart to the teacher and the parent. The teacher follows up this notice. In case of poverty there should be free dental clinics. But it is better for the parents to bear some of this expense themselves.

Dr. Schaeffer said that in his boyhood he suffered agony from aching teeth. Just as the veterinarian looks after the teeth of horses, so children should be examined. Boys may often be unmanageable from toothache.

Supt. Lose asked if Mr. Ayres did not approve of inspection if not controlled by the Board? In country districts the Board of Health does the work.

Mr. Ayres: The principle is that something must be done to secure the interest of the school people. It is not essential to take the matter entirely out of the hands of the Board of Health. In Massachusetts the problem has been solved. There the Board of Health makes up directions and requirements for medical inspection. The State Board of Education approves these directions, prints and distributes them. Each year there is a physical examination by a physician, and ear and eye tests by pupils. Teachers can perform these tests as well as physicians; but parents do not take their examinations as final, and generally consult a specialist.

The Board of Health must have some responsibility in the matter so as to enlist their support.

Adjourned.

TUESDAY AFTERNOON.

THE afternoon session convened at two o'clock, when Principal John W. Anthony, of Pittsburg, read the following paper:

COMPULSORY EDUCATION IN PENNSYLVANIA.

Pennsylvania passed its first compulsory education law fifteen years ago. It is not too soon, therefore, to inquire if the good results anticipated have actually been accomplished. Our State was undeniably backward in taking this important step. Massachusetts has had a compulsory education law since 1852, and New York since 1874. But even in 1895 public sentiment was by no means a unit in favor of such legislation. Compulsory education bills passed in 1891 and 1893 had been vetoed by Governor Pattison because they interfered with personal liberty, and in signing the Act of 1895 Governor Hastings announced that he did so only because he was unwilling to obtrude his individual judgment in the matter. He added that the

measure "offends as little against the personal rights of the citizens as possible."

My own knowledge of the subject is based on an experience of nine years as superintendent of schools in Jeannette, and five years as principal of one of the Pittsburgh sub-districts. For the broader basis of information necessary for this paper, I am indebted to the ninety-one superintendents who kindly filled out the schedules sent to them some months ago. Only seven of the ninety-eight superintendents addressed failed to co-operate in this matter.

The Compulsory Period.—In most states the compulsory education law is explicit as to the number of months during which attendance is compulsory, the more advanced states requiring attendance for the full school year. Our state has left this to the discretion of each locality, with the proviso that the compulsory period must be at least 70 per cent. of the school year. In 75 places, or four-fifths of those reporting, the school board has held to the maximum as its compulsory period. Most of the sixteen places where the period has been shortened have a population of less than 10,000, but it must be a source of regret to the superintendents in the following cities that their boards have reduced the compulsory period. These four cities, the only ones in the fifty largest cities of the state where this shorter compulsory period prevails, are Reading, 70 per cent.; Homestead, 70; Erie, 75, and Nanticoke, 90. Dr. Roland P. Faulkner has said, relative to retardation, "The question is not, Is the education good or not? but Do they get it?" There is no assurance that those who need it most will get the full schooling which the city and state pay for unless attendance is required every day that the schools are open.

Attendance Officers.—The law provides that each city must employ at least one attendance officer. It appears that all the cities reporting have appointed such officers with the exception of Dunmore, where, it will be explained later by Mr. Hoban, the superintendent has practically been made also the attendance officer of the district. Philadelphia has 43 officers, Pittsburgh 26, Allegheny 7, while Scranton, Johnstown, Altoona, and McKeesport each have two. All other places have one officer each. These places vary in size from Reading to South Sharon. The officer in the latter place receives $50 per month to care for less than 1,400 enrolled children, while the Reading attendance officer receives $90 per month to control attendance in a great industrial city with nearly ten times as many children in its public schools alone. Between these extremes there are all gradations. Philadelphia, with its 43 officers, has one to care for each 4,000 public school children, while Scranton's two officers have a load over twice as heavy—9,700 children for each officer. New York City has 86 officers, or one for each 6,900 children, and London 350 officers.

What Cases Reported to Officers.—This great variation does not necessarily measure the care with which the law is being enforced. It records rather in many cases variations in the methods of enforcement. In some places every unexplained absence becomes a case for the officer to investigate. Other superintendents insist that teachers get the explanations for all ordinary absences—absences, for example, where it is probable that a satisfactory reason can be gotten at once by a note sent to the parent through the mail or by some child living near by. Similarly, an officer who merely warns parents who violate the law, without ever making good by an arrest, can cover only a small area. His policy creates repeaters and encourages new violations, many of which would never have arisen if the earlier offenders had been punished.

In the writer's opinion, it is unwise to load upon the attendance officers the task of procuring explanations for all unexplained absences. The sending of notes by teachers can be made easy by the preparation of blank forms. Reading, Phœnixville and Lansford have sent me blanks which their teachers use in place of handwritten notes to parents. The Phœnixville form is simple and adequate. It informs the parent of the date of absence and asks to have the reason entered on the lower part of the blank, which is then to be signed and returned to the teacher. Only when a satisfactory excuse cannot be gotten in this manner from the parent should the attendance officer be appealed to.

Satisfactory Excuses.—Right here two questions arise. What is a satisfactory excuse? And who shall decide? Though the law is not clear on this point, it is plain that the decision must in most cases be made by the teachers. But it is also plain that some general rules ought to be adopted for their guidance. Most superintendents probably talk the subject over with their teachers or principals. No city except Harrisburg, however, has reported to me that any written instructions or rules are in use. Without these there is danger of looseness. New teachers may not have heard the informal discussion, and even those who did hear it can be kept up to the desired standard far more surely if the points made are reduced to writing. The Harrisburg printed rules are so explicit and

so carefully prepared that I venture to quote them in full.

Valid Excuses for Absence from School.

At a meeting of the school board, held September 9, 1901, the following was adopted for the guidance of the teachers of the district:

You are hereby notified that, in reporting pupils under the Compulsory Education Law, the following will be considered valid excuses for absence, and pupils producing satisfactory proof in accordance with the following should not be reported

1. Mental incapacity certified to by a Physician.

2. Physical incapacity certified to by a Physician.

3. Sickness of pupils certified to by attending Physician, the Certificate to state the exact time covered by said sickness, and in the case of Contagious Diseases the Certificate must be endorsed by the Sanitary officer.

4. Isolation on account of Contagious Disease in the Family certified to by attending Physician and endorsed by the Sanitary officer.

5. Death of a near relative and attendance upon funeral, provided said absence does not exceed five days in any one case.

6. Necessary absence from the city not exceeding five days during the year.

7. Pupils between the ages of 14 and 16 years who can read and write the English Language intelligently and who are regularly engaged in some useful employment certified to by employer. In all cases of doubt as to the validity of an excuse the name of the pupil should be reported.

It is probable that in most districts there has been no such explicit formulation of the excuses which will be regarded as valid. Eighteen superintendents report that illness, either of the child or in the child's family, or exclusion on account of contagious diseases are the only excuses accepted, three of these—Philadelphia, Reading and Phœnixville—specifying that the fact of illness must be proved by a doctor's certificate.

Poverty.—Eleven superintendents report that in their districts poverty is accepted as an excuse, the explanation being usually added that the earnings of the child are needed in the family. Poverty is thus interpreted as being one of the "urgent reasons" which the law recognizes as justifying non-attendance. Besides making posible a violation of the Child Labor Law, you will notice that such an interpretation violates also the compulsory education law. That law states that "the term 'urgent reasons' shall be strictly construed, and shall not permit of irregular attendance." If no interpretation is legal which permits *irregular attendance,* surely no interpretation is legal which permits *regular non-attendance.* The poverty question is too large for discussion here. It must be sufficient to say that, in my opinion, as well as in the theory of the law, there is an obligation on each community, through its public or private relief agencies, to see that no family suffers from lack of food or clothing. This obligation is regularly recognized and the family cared for in some way if the oldest child is, say, only eight years old. The obligation is not at all reduced when there is a chance for the community to escape the burden of giving relief because there is a twelve-year-old child in the family upon whose shoulders it may be shifted. Poor children need the full schooling the law requires even more than children from more favored homes. The state recognizes the need of the poor child when it provides text-books and supplies for its use. As the Chief Truant Officer of Providence, R. I., puts it, "It is cruelly unjust to refuse a child because it is poor the advantages which the state has come to believe should be forced upon the child of the rich."

Are Only Valid Excuses Accepted by Teachers?—All of us know from experience that instructions to teachers are not self-enforcing. The superintendent must have some means of knowing whether his formal or informal standard is being adhered to. And this is not from any lack of confidence in the integrity of the teachers or principal, as some answers I have received would seem to imply. It is simply a recognition of the inability of a considerable proportion of people to understand instructions on any subject, and to follow such instructions accurately. The answer to our inquiry would seem to indicate that most superintendents have no method of satisfying themselves on this point. Only seven places report that the excuse notes are filed with the superintendent for his occasional inspection, or are examined by the attendance officer on his rounds. Five other schedules indicate that in these places teachers' reports give the excuses which have been accepted for all absences. I have personally never seen reports of this sort. The filing with the superintendent of all excuse notes or blank forms on which the parents have written their excuses appeals to me as the most effective check yet devised. Only an occasional examination of these by the superintendent or attendance officer would be needed, after which they might be destroyed.

Are all Unexcused Absences Actually Reported by Teachers?—A child who has been sick or quarantined by sickness in the house, is normally due back in school on a certain date. Are all teachers careful to hold such dates in mind and to learn later on, through the attendance officer or otherwise, whether the boy is still properly out

of school? This is only one of the several points at which the teachers' work may be careless, and may be the cause of many lost days of schooling. The schedules received indicate that at least five superintendents recognize this possibility and have a means to check it. The teachers' roll-books are examined at intervals, and explanations are asked if long unexcused absences are recorded. Eleven superintendents appear to rely upon the monthly statistical reports to reveal undue absence in any class. I suppose by this is meant the percentage of attendance, but these percents will reveal nothing of the sort if they are figured on the false basis which has become established in some communities. I refer to the habit of counting a child "off roll" who is absent continuously for ten days, two weeks or a month. It is easy by this means to reduce one's enrollment to the fairly regular pupils, and from this as a base always to get a fairly high percentage of attendance. This method of computing average attendance tells little as to the regularity of attendance. The township of Upper Darby, adjacent to Philadelphia, has had an average attendance for the past ten years of about 86 per cent., and yet in the admirable study of actual days attended, made by Mr. Ralph L. Johnston, the supervising principal, and published recently in the *Psychological Clinic,* it is shown that, during the period named, thirty-four per cent. of the intermediate pupils had lost over one-half of their school days, while in the primary grades these unfortunates amounted to sixty-two per cent. Where absences, no matter how long continued, are figured into the per cent. of attendance the figure gives, it is true, a crude indication of the teachers' care in keeping attendance as perfect as possible. But in the writer's opinion, no check on this point is so sure and so effective as inspection of the teachers' roll-books.

Names Dropped Permanently from the Roll.—When a boy's name is dropped from the roll of a school, he is lost to the compulsory education law unless he is at the same time recorded in some other school. It is therefore of great importance that the superintendent should know that no names are dropped from the roll without good reason. Our inquiry on this point used the word "discharged," which many understood to mean suspended or expelled. For this reason no use is made of the answers received to this particular question. The blank forms sent me by several superintendents show that in those places the names of all children dropped from the roll, with the reason in each case, are required as a part of the teachers' monthly reports to the superintendent. By this means the superintendent has the full facts before him. The children who left to attend some other public school can be checked up by listing them occasionally and learning by inquiry if they were enrolled at the new school immediately after dismissal from the former school. Monthly reports of this sort enable the superintendent to be sure that no child has been allowed by its teacher to slip into work illegally. He can occasionally have the list from the teacher compared with the stubs of certificates issued. A child reported as "gone to work," whose name does not appear on the certificate stubs, should at once cause an inquiry to be made.

At this point our compulsory education law needs amendment. Every child, before leaving school, should be required to prove its age and ability to read and write in English. This is now required by the two child labor laws, but only in regard to certain specified occupations. A girl, for example, may desire to leave school to work as a servant. No certificate is required, no positive proof that she is fourteen, no test as to her literacy. Within a week she may be employed instead in some small store, and it may be months before an inspector discovers her there and orders her discharged for not having a certificate. This loop-hole has been recognized in several states which have amended their compulsory education laws to require certificates for all who wish to leave school to work—no matter where the work is to be performed. Such a provision puts all children on an equality, and ought to be added to our law.

Co-operation with Parochial Schools.—No mention has been made so far of the most serious difficulty encountered in enforcing the compulsory education law—the lack of co-operation on the part of parochial and other private schools. Twenty-seven superintendents report that the parochial schools in their districts do not report absences to the attendance officers; seven others state that such reports are, in their opinion, very incomplete, while the majority of superintendents reply that they have no means of knowing how completely this work is done. The situation is a delicate one. The law is clear enough. Precisely the same reports as to absentees are required of parochial schools as of public schools. Any excuses for non-attendance which parochial school teachers or public school teachers accept must be "in accordance with the provisions of the act"; and for any failure to make the reports required the principal or teacher is declared to be guilty of a misdemeanor and subject to fine

or imprisonment. But an appeal to the law, in the writer's opinion, will be far less effective than an understanding arrived at by means of a friendly call by the superintendent on the several parochial school authorities. If tact is used the cases are rare where the teachers' books will not be thrown open to inspection by the attendance officer. In some districts just such co-operation has been brought about, and it will be instructive to hear from superintendents on this point in the discussion which is to follow.

School Census.—Practically all compulsory education laws are framed on the theory that a certain number of children cannot be found and so gotten into schools except through the drag-net device known as the school census. If this is a real census it will disclose the number of children who ought to be in school but are not, chiefly those who have escaped the truant officers in some way during the year, but also a considerable number who have moved into the city from elsewhere, or who have just reached the compulsory age—usually eight years.

The farcical character of this census in most Pennsylvania districts has long been recognized. Sixty-two schedules condemn it, while only ten call it satisfactory. The purpose of the census is to add names to those already enrolled. Twenty schedules show that it did not even come up to the number enrolled. I will read the percentages of omissions reported—15, 23, 11, 25, 16, 33, 12, 16, 25, 11, 20, 11, 4, 17, 7, 17, 13, 20, 20 and 10. The law for at least nine years has alloweed school boards to take this work out of the hands of the assessors. But twelve appear to have done this. These places are Philadelphia, Erie, Lancaster, Altoona, McKeesport, Chester, Phœnixville, Tamaqua, Corry and Lansford. Wilkinsburg and Wayne Township report that for one year their school board took the census through their own officers.

Is a Good School Census Important?—The probable reason why more places have not made the change is the expense, together with the feeling that a school census is not really needed to get all children into school. I take issue squarely with those who hold this view. Every year there are children moving into our cities from other cities or from abroad; every year there are seven-year-olds who reach the age of eight; every year, through the failure of parochial schools to make reports, a certain number of under-age children disappear from the school rolls, and finally every failure of a public school teacher, principal or attendance officer to use the necessary care may mean the permanent loss of a child from school, or at least a long period of non-attendance. These losses occur often where children leave one school and fail to enter some other. When children announce that they are going to attend a parochial school in the future, how many superintendents insist that such announcement must be verified by word from the parochial school that the child has entered there? Or it may be that the boy announces to the parochial school teacher that he wishes to leave it in order to attend a public school. In how many places do such parochial teachers notify the superintendent so that the boy's attendance at the proper public school may be made certain? Many foreign families from certain of our cities move out into the country in April, May or June for the sake of employment in certain forms of farming and market gardening. Their children's names are quite properly removed from the school register for they are non-residents. How many superintendents have any satisfactory way of keeping track of such children so that on their return to the city in October they shall be put again into school? There are several hundred children under sixteen in our various industrial or reform schools. How many superintendents are notified when a child has been discharged from such a school, and so becomes subject to school attendance in the home city?

These illustrations indicate how impossible it is to avoid some losses. Even in the smaller places there is little assurance that the attendance officer will notice the absentees about town, and so get them into school. The girl who is old enough to work at home will be kept busy in-doors most of the time, and there are numerous small stores, or sweat-shops, or rooms where tobacco is stripped which can rarely be reached by the factory inspector, and the child who is at work in these places is never seen about the streets. The school census is the only sure way to get hold of a city's new children, and get control again of the children it has lost.

Cost of the School Census.—Eight of the above named cities report what their census cost. This varied from $7,000 in Philadelphia, to $25 in Corry. Lancaster and McKeesport report $500 apiece, and Chester $200. These costs compared with the only other available figures—the number of children enrolled in the public schools in each case—give an average cost of four cents per child. Lancaster shows the highest cost, eight cents per child, and Corry the lowest, two cents per child. Four, five, or six cents per child seems to be the ordinary cost.

Children Put into School by the School

Census.—As to the results actually gained in children discovered by the census and put back into school, the answers were quite incomplete. From six only of the eleven places where the board has made the census were there replies on this point. The Philadelphia board added to its rolls two thousand five hundred fifty-four children. Lancaster added three hundred and twenty-two children, and Corry twenty children. Nearly a score of other superintendents, where the assessors still take the census, report that in spite of its incompleteness certain unschooled children were brought to light by that means. The presumption is that the number would have been increased if the enumeration had been thorough.

The Financial Gain if the School Board takes the Census.—It is for each school board to decide if the change shall be made, which the law permits, in the method of census taking. Superintendents, if they will, can usually bring the board to see the importance of the change. The financial gain resulting from an increased state appropriation can for the most part be used as an effective argument. Every child lost is at least one dollar lost to the district, for by an act passed in 1907, the distribution of one-third of the state school funds is put upon the basis of this census taken under the compulsory education law. Unfortunately the financial argument can not be used in regard to the census to be taken this spring, this being the off-year. But the 1911 census will control the distribution of funds, and districts where the showing made is from 15 to 30 per cent. below enrollment will do well to have this fact in mind.

Some cities which have apparently taken no pains to compare the census lists with school registers in order to get their non-attendant children into some school—the fundamental purpose of a school census—have been very zealous in having a comparison made the other way round, in order to get dollars into their treasury. That is to say, they have merely tried to find out what names the assessors skipped so as to add these to the lists, and thus get a larger appropriation. This course is legal and unobjectionable if the other more important comparison, for the sake of the unschooled child, is not neglected. But let no one think that by this method of adding to the imperfect assessors' list, the district gets its full appropriation, and that there is no financial reason for having the house-to-house work done thoroughly. Adding names to the assessors' lists from the public school registers corrects only a part of the assessor's omissions. Omissions of parochial school children and children under sixteen at work—each a loss of good money to the district—can only be avoided by having the work done thoroughly by men employed by the board for the purpose. Nearly every city which has tried it has shown that it is possible to get a fairly complete enrollment when the right men do the work, and do it under the direct supervision of the school authorities. Philadelphia increased its registration of children 12 per cent., Altoona 16, Phœnixville 17, when they eliminated the assessors from this distinctively school task. Undoubtedly most other cities and boroughs would show a similar increase if such a change were made. The members of the Educational Commission were so convinced that this change is essential, that it was made obligatory in their code that each school board should make its own enumeration. Possibly a bill requiring this may be passed in 1911, but in the meanwhile what of the schol year 1910–1911?

Special Classes for Truants.—The enforcement of compulsory education regularly causes trouble for teachers in the lower grades. Boys too large for such grades, and troublesome besides, are forced into these classes, producing a condition unfair to the truant boy and to the teacher as well as to the normal children. The only adequate solution for this difficulty is the formation of special classes in which these boys can have the special attention they need. Such classes should have not the poorest but the best teachers the community can hire. Only seven districts report that such classes have been formed in their communities. Philadelphia has ten complete schools for such children, and special ungraded classes exist in Allegheny, Reading, Erie, Harrisburg, York and Lebanon. The last named, the twenty-second city in size in the state, reported in regard to special school in 1905, that it "has been of great assistance to us both in discipline and attendance. Pupils who were 'terrors' in the school room before we had the special school have become quite obedient since they have learned that they are surely to land in the special school if they keep on in their former ways, and others who are in the habit of playing truant occasionally have decided to go regularly after having spent a month or more in the special school." Fifteen cities smaller than Lebanon report no special classes or schools. In my own city, Pittsburgh, there is none. Their absence, besides being an undeniable cause of retardation, is a serious hindrance to the atendance officers' work. There is also created an opposition to the compulsory education law which would not exist

if these difficult cases were properly taken care of. The only cost reported is that of the teacher employed. Though other costs must of course be taken account of.

It is good news which the newspapers bring that since the new child labor laws went into effect on January 1st, two cities, Wilkes-barre and Pottstown, have organized special classes for children who failed to get certificates and whom it would have been difficult to force into the regular grades.

In the absence of any special classes in which to care for habitual truants, fourteen districts send such children to reformatories or industrial schools to make them stay at home, and worst of all three send them to the lock-up. The great mass of the reports indicate that no place is available to which such children can be sent, or that no necessity for such commitment has arisen.

Child Labor.—The compulsory education law is a far greater safeguard against child labor than any possible child labor law could be. The schools have the children in their grasp. They can, if they will, make sure of their ages. It is simply a problem of holding them. Factory and mine inspectors must find the children who are illegally employed—and those who do not want to be found usually are not found. Moreover, by the act of 1907, attendance officers are given practically all the powers of the factory and mine inspectors, so far as the employment of children is concerned. They may enter any place of employment to ascertain if children who should be in school are employed, and they may examine certificates, notices, registers, or other lists required by law. In addition all employers are required to report periodically to the Superintendent of Schools, the names and home addresses of their children employed, while an adequate school census law will get this same information from the parents themselves. The ninety-one replies I have received indicate that in thirty-eight districts child labor has been materially reduced through the operation of the school law, a total of 979 children having been dismissed from work and sent to school. Many cities made no report on this point, and a considerable number report explicitly that no children have been found employed and put into school. In this class stand seven cities with a population varying from 78,000 to 10,000. One is forced to the conclusion that in most of these cases the school authorities have not realized the opportunity which the compulsory education law gives them in regard to places of employment.

Prosecutions.—The law requires that parents who refuse to send their children to school shall be arrested. In 46 of the 90 places reported it was necessary to resort to the arrest of parents, a total of 1,479 having been arrested. The cities where more than ten parents were arrested were as follows: Philadelphia 1,039, Pittsburgh 153, Nanticoke 35, Dunmore 26, Harrisburg 20, Lebanon 15, Mahanoy City 15, McKeesport 12, Coatesville 12, Shenandoah 11, and Greensburg 11.

In Philadelphia much difficulty has been experienced because magistrates, in 72 per cent. of the cases, have refused to fine the parents brought before them. In Mt. Carmel and in McKees' Rocks the aldermen have dismissed without fines all cases brought before them. Fortunately however these places are exceptional. In 29 of the 47 places where parents were arrested, every parent was either fined or imprisoned. In the other places, aside from the three just named, it was the exception rather than the rule for the magistrate or alderman to fail to impose a fine.

Certain school districts are conspicuous because of their absence from the list showing prosecutions during the last school year. Thus, no prosecutions whatever were reported from cities which rank respectively fourth, sixth, seventh, eleventh, fourteenth, fifteenth and nineteenth in the state. The smallest of these cities had a population of 22,000 in 1900. It is not possible for the writer to believe that all parents in these eight cities either sent their children to school of their own accord, or acquiesced as soon as their failure to do this had been called to their attention and the law explained. Human nature does not vary much in a group of large cities, each with more or less of a foreign population and with industries tempting children from school. Dr. Schaeffer, in his last report, protests against the publication of figures of this sort. I agree that those bound to do so can misinterpret such figures, but this is true of practically all statistics. On the other hand, when a city with three or fourscore thousand population has made no prosecutions under the school law for a series of years, one is forced to suspect that politics has laid a restraining hand upon the attendance officer. Such figures do not of course prove the non-enforcement of the law, but they do point out localities in regard to which it is worth while to make careful inquiry.

Statistics.—It is a source of regret to the writer that our state reports give no facts in regard to compulsory education. We do not even know how many children there are in the state, for no account is taken of parochial schools. These children are sub-

ject to the compulsory education law and are thus in a sense a part of the public school system of the state. It would seem as though fairly complete figures in regard to these schools could be gotten. Moreover, we have no figures showing the results of the school census. It is probable that the present discredited method of taking that census could not have endured so long as it has if its absurdity had been advertised annually in the State Department reports. A few other figures would be valuable each year, including the one already mentioned—the number of parents prosecuted for violating the law. Mr. Samuel Hamilton, Superintendent of Allegheny County, a few years ago advocated the collection of some such data from each school district in order that the State Department might know if the laws are being enforced. Reliance is now placed, as you know, upon the affidavit of the President of the school board that the law has been enforced. Mr. Hamilton said, "If the affidavit required from each school district certain data, it would be a much greater instrument for good. Indeed, under the act, such a report could be required with the affidavit as would lift the enforcement of the law above the farcical and pharisaical efforts made in some districts. A positive oath to a specific statement of facts would require most presidents either to resign or to enforce the act. A general affidavit, to matters more or less vague and indefinite, is easily straddled."

I concur in this opinion, but the State Department needs one thing more before a thorough enforcement of compulsory education becomes general in our state. Two or three traveling inspectors should be appointed, similar to the high school inspectors already at work. On the basis of their reports the Department would be able —as it is not able at present, although the law allows it—to withhold one-fourth of any district's appropriation for failure to enforce the law. New York State has twelve such traveling agents. As a result of their reports, the state appropriations were withheld last year from thirteen school districts, including the important manufacturing city of Niagara Falls. In several other state departments of education there are such agents, and there is no apparent reason why Pennsylvania should not have them.

Conclusion.—In closing, I wish to enumerate the suggestions above, based in most cases on the reports made to me by various superintendents.

As to administration, it was suggested:

1. That certain of the larger cities seem to be under-supplied with attendance officers.

2. That Boards be urged to make the compulsory period identical with the school year.

3. That Boards be urged to take the census through their own employees.

4. That teachers should themselves get excuses for absence, using printed forms for this, and report only the unexcused absences to the attendance officers.

5. That written instructions as to what are valid excuses be placed in the hands of all teachers and principals.

6. That parents' excuses and teachers' registers be inspected occasionally by the superintendent, or at least by the attendance officer, to see if the reporting of absences or accepting of excuses is being satisfactorily done.

7. That friendly relations be cultivated with those in charge of parochial schools in order that the same inspection of registers may be allowed there.

8. That special classes for truants or incorrigibles be started in all cities and boroughs.

9. That the State Department call for and publish certain figures as to the school census and the enforcement of the compulsory education law.

The legislative program involved overlaps these points somewhat for it should aim to make compulsory in 1911 what it is urged that each district adopt this year of its own accord. The requirements to be worked for are:

1. Attendance for 100 per cent. of the school term.

2. School census by employees of school boards.

3. That parochial schools be required to report each term the names and addresses of children enrolled and children dismissed.

4. That no child between fourteen and sixteen years of age be excused to work in any kind of occupation, unless it has received an employment certificate.

5. That several traveling inspectors be appointed under the State Department for compulsory education purposes.

Most of these changes were made in the school code which failed last spring. An admirable suggestion has been made by Superintendent Cummings, of Olyphant, that at the next session of the Legislature a bill be introduced and, if possible, passed, embodying the compulsory education features of the Code—this in order that we may avoid again the possibility of losing the part in the loss of the whole.

COMPULSORY EDUCATION.

The discussion of the subject was continued by Supt. C. F. Hoban, who presented his ideas in the following paper:

I am not expected to discuss the splendid paper you have just heard. When Mr. Hall, Secretary of the Pennsylvania Child Labor Association, requested me to open the discussion he asked that I simply explain how we enforce the law in Dunmore. Please do not get the idea that you are to hear any great system exploited, neither do I wish you to get an impression that we are conceited about what has been accomplished in my town. In the most modest way I want to say to you that all the boys and girls in Dunmore under the age of fourteen years are in school. Eight years ago the Dunmore school board decided that the compulsory education law should be strictly enforced. Sixty teachers were called together and when asked if they believed in the purpose of the law replied that they were ready to do all in their power to bring about its rigid enforcement. The conditions confronting these sixty teachers were anything but encouraging. But when they considered that ultimately illiteracy would be banished in Dunmore, ignorance made impossible, and at least the elements of an education secured for every boy and girl, they were ready to lend the effort.

The plan was that the teachers should secure the names of all children in their several districts under thirteen years of age who were then at work. Notices were sent by the teachers to the parents to have the children return to school. A second and then a third notice was sent. A few children returned to school, but not all. The names of those who had failed to comply were sent to the office. I wrote personal letters to the parents, calling their attention to the violation of the law, and the injury they were inflicting upon their children. I notified them that failure to have their children report to school the following Monday would result in their being brought before a Justice of the Peace. Proceedings were brought against the parents who resisted strenuously compliance with the law. These paid fines and later sent their children to school. Profiting by this lesson, a large number of parents returned their children to school, but there were still a great many who took chances on escaping notice. We caused the arrest of a second lot of parents and a third and fourth lot, and before the year ended we had brought back to school over 150 children.

Our experiences were anything but pleasant. It was to be expected that the persons whose arrests we had caused would feel aggravated. The experiences at the Justice's office were humiliating. I was threatened with bodily harm, but was never molested. The consciousness of right banished all fear and the people soon realized that we meant to be firm. The teachers continued to report to the office the following year. We were obliged to resort to law several times to compel stubborn parents to return their children to school.

Trying types of poverty were brought to our attention. Help was secured for such and at the end of the year the compulsory education law was in successful operation. Two conditions, however, confronted us. One, that we must devise means of assisting widows whose support has been taken from them. Another, the proposition of securing regularity of attendance of those who had been brought into school. The assistance of charitable and allied organizations was secured and a fund created by the schools. With the aid of these relief was given in worthy cases. This solved the ugliest problem we met in the enforcement of the law.

To secure regularity of attendance the teachers devised many plans. Kindness, attractive environment, encouragement—everything that would make the children happy in school was tried. Where these failed harsh measures were used. Habitual offenders were brought before Justices until the people realized that in Dunmore the law must be complied with, and now we have very little difficulty in securing regular attendance.

You may ask, Are the people who were arrested enemies of the schools? Not at all. They are the best friends we have. While angry at the time, they realize that a great thing has been done for their children. The people of Dunmore believe in the law and they strongly approve its enforcement. The success of the superintendent is due entirely to the splendid cooperation of our sixty teachers. They have been tireless in their efforts, and have believed sincerely in the purpose of the law. Without their assistance the law would probably be a dead letter in our town.

We experience little or no trouble now. Children are interested in school. They are anxious to stay in school. There is a great rivalry in the grades and a splendid spirit everywhere. Boys and girls, who have been brought back from the breakers and factories have remained in school after they had reached the working age, have graduated from our high school, and one is now a member of our teaching force.

HOW TO CREATE WRITING ABILITY.

Mr. Maurice E. Bennett, of Wilkinsburg, read the following paper on this subject, which also was given attention in the proceedings of the County Superintendent's Convention:

The principle of self-activity, growth, development of mental and physical powers must be as fully considered in teaching writing as in teaching any other subject. The work leading up to the knack of writing is fundamental training—development of the power to think and express direction; to think action and express action; to think curvature and express curvature; to think rhythm and express rhythm. This brings into self-activity the mind, the eye and the hand.

By means of specialized physical-culture drills the mind and hand are connected up and brought to work as a unit. The first steps toward conscious thought and controlled attention are most completely accomplished by the aid of the arm and hand. Through fundamental training-exercises the hand is brought to do unconsciously what the mind directs—to act as though it were a part of the brain. Thus the hand becomes an outlet for the flow of the nervous energy generated by the thought action. This is sufficient to start and maintain the action of the hand, if the muscles of the arm have been properly trained and it is balanced on its writing pivot.

The action-training of the mind and hand is a great help to tongue, ear and eye, for what we do sinks deeper than what we see or say or hear, because involving more self-activity. This action training leads the child from seeing vague, complex, haphazard images, to seeing definite, simple, orderly images, and it is only by having a clear, definite insight that we can obtain a clear, clean-cut expression.

We here reach the second great principle of connectedness or correlation or re-enforcement of one study by all the studies, and the three processes most closely connected are reading, spelling and writing. Each process should have three to four developing planes, reaching from conscious thought and conscious expression to the automatic direction and action of the powers of expression. The reading-mechanism, the spelling-mechanism and the writing-mechanism should be so developed that all three processes can be instinctively performed—performed without conscious effort—so mechanized that they are rapid, sure and free, leaving the mind free to deal with the subject matter. The ear, mouth, eye and hand should be so trained that each will re-enforce the automatic perfection of the others. By alternately resting and modulating from one set of faculties to another we secure mental and physical unity.

Knowledge should always precede practice in order that there may be conscious control of the attention to direct the movements by the will—hand and arm immediately guided by consciousness. At the first we must put into the mind of the child the thought that should be in the mind to direct any given motion or action. We must, in effect, play on the mind of the child through the ear and eye and mouth until the thought goes through his mind and is expressed by reflexed motions of his hand—produced by thought stimulus without any conscious effort. Writing is made up of motions—hand steps—and the concept of motion must be as completely established as the form concept. A pupil can write just as well as he has acquired facility in the use of his hand to express the impressions as they pass through his mind. In other words, he can write just as well as he has been taught to write, for the ability is an acquired ability, an acquired knack. There are only a few motions, and these once mastered so that they can be made at command, made as dictated, the work of letter-building is very simple. The making of a single letter is easily accomplished, but to run these letters together in every manner of combinations without having to stop to think, as in words, requires that much practice be given to connected letter repeats, making chains of alternating letters, letter groupings, etc. This practice should be continued until the pupils can write with a continuous motion the letters as named by the teacher, or write a word as the letters are named by the teacher, or write a drill word and give the rhythmic count as they write. This is preliminary work to written spelling.

The child has first to learn how to put the hand in motion, learn to think action, direction, control. Letters should not be considered until there have been acquired enough motions to enable the child to build letters out of the motions, and not be compelled to learn to draw the forms before acquiring the knack of writing them. The pupil should be taught how to practice before being allowed to practice, should have the power of action and be able to think the process before working for the refinements of motion, facility, automatism.

The real task in teaching writing consists in bringing the pupils to assume a proper position and to use a writing action. Not only to teach these things, but to develop them into habits. Here the steps of advancement must be finely and definitely graded. Until a class is trained to give

attention and do the same thing at the same time and in the same way, as precisely as a company of soldiers, it is useless to attempt applied movement. Here is where the teacher makes good or fails. The teacher must be able to direct the attention of her class or she can never teach them to control their own attention. One of the first principles of teaching is to hold the attention of a pupil and direct that attention. We must have sufficient grasp on the attention of the child to direct his attention to the mechanics of execution. We must be able to direct his thoughts to the right viewpoint, and he must be able to hold the viewpoint long enough to make the right kind of a try. If we place a form on the blackboard and the child should try to make a form like it without any thought of the mechanics involved, there would be no trace whatever of mental discipline or development in the operation. And the next time the child makes that form he will be so engrossed with his labored efforts in making this form look like the other that he will not hear a word of the directions the teacher is giving. The moment the teacher loses control of the child's attention she is unable to teach. Children are so automatic and imitative, and have such a facile memory that it is easy to force them over matter that the mind does not grasp and is unable to deal with or to think. In this way many children pass through the primary grades with seeming brightness, but with no mental growth. When they come to the intermediate grades we wonder why they don't give attention, why they can't follow directions and why they seem unable to think. The method of the primary training is largely responsible. They can work only the powers of memory and imagination. There is no mind training in these things.

By holding and directing the attention of the class as a unit we can teach the class as a unit to obey in the smallest details, and in doing this develop in the pupils that rarest and most precious gift, the power of self-control. In these functional and technical drills we insist upon strict concerted action in the smallest details. If we say bend the elbow it does not mean bend the wrist. If the eyes, ears and mind of every child are at attention, a clear impression will be made on every mind and the muscles of every elbow will be contracted and every elbow hinge closed on the instant. There is a charm and an incentive in this drill that appeals to the most sluggish nature. We visit on an average more than three hundred school rooms a month and have yet to find a pupil who will not enter into the spirit of the drill. The technical movement drills, which may be varied almost without limit, do for the child what military training does for the soldier. It is drill that makes the soldier; it is drill that makes the easy, rapid, business writer of to-day. There is no other method by which are instilled so thoroughly order, patience, punctuality, life and snap in mental action and cheerful obedience.

The position and motion drills create ability, capacity for receiving discipline, the fine dexterity of the artist, the shaping of the organs toward a finer and firmer certainty of action in execution, until the hand works like a projected part of the brain—muscles going like the mechanism of a watch, true to a hair.

There must be persistent training to establish the following steps:

1. Large whole-arm motions in the air until the class is lined up to follow directions and work in concert.
2. Motions with forefingers on the desk to initiate the work of reduction and control.
3. Motion-lines on the blackboard to show that every line corresponds to the motion that made it.
4. Motion trials with finger tips sliding on the paper.
5. Motion trials with the hand carrying the pencil.
6. Motion lines on the paper.
7. Development of writing steps.
8. Application of movement to letter forms—letter building.

Following the development of the writing action for the letter "u" until it can be made without conscious effort—the pupil depending on the action to make "u"—the same measure movement can be used in making the other letters. The letter development now becomes a very simple matter for the pupil and the teacher. The drill work must now be applied to letter combinations and word building, which may be specialized as follows:

1. There must be rigorous and persistent drill to develop the running action of the hand. Train for continuous action in push-and-pull and oval motions, letter repeating, and the drill words until the writing action is apparent in the written work of the pupils. Keep in mind that there must be regular flow of action, and train on words that can be written with a continuous forward throw of the hand.
2. Maintain the building of continuity and uniformity of motion in repeating a letter, in alternating letters, in grouping letters, in special word writing.

The compulsory education question aroused some discussion. Supt. Cummings, of Olyphant, spoke of the problem which con-

fronted him, When can a child read and write intelligently enough as demanded by the law, to be granted an employment certificate? He said that he had found one superintendent to use the first reader as a test, another the second reader, others the third reader, or a newspaper.

Supt. Harman thought that we could not all give the same interpretation, because conditions are so different. In Hazleton community there are hundreds of boys and girls employed in the mines and factories, who, if the standard were set too high at once, would be thrown out of employment, entailing much misery in the home and interfering very materially with the factories and mines. He therefore puts the minimum of intelligence required at the ability to do our third grade work; that is, to read the second reader well and to write a letter of friendship. Using this as a basis, he is still compelled to reject about one out of every four, having at this time issued three hundred employment certificates and refused about one hundred. He further stated that next year he proposes to raise the standard to requirements of the fourth grade, and the following year to that of the fifth grade of his schools.

Supt. McGinnes, of Steelton, said that poverty stands in the way of regular attendance in some communities in the Commonwealth. Insufficient clothing is frequently offered as an excuse for not obeying the mandates of the compulsory law. This, however, is not an insurmountable barrier. One method of meetingt his situation is by appealing to the churches. One of the most practical functions of the church is that of providing for the poor within its jurisdiction, and as a rule it is not only ready but willing to meet its obligations in this particular. Then, too, it is likely to do it in such a judicious manner as not to make children dependent upon charity. Unfortunately too many so-called charity organizations, unintentionally foster a spirit of dependence that needs to be condemned in our civilization. When church authorities are notified that certain children tributary to their denomination are out of school on account of lack of proper clothing, there is usually an immediate response. When the fact is remembered that there are not many children in any community who are not affiliated with some church denomination or other the problem of caring for such unaffiliated children is not a serious one. There are always a sufficient number of benevolently-disposed persons in every community to come to the rescue by simply asking them to do so.

Supts. Missimer, Buehrle and others made some remarks showing the various conditions existing in the state. The Superintendents from the coal regions asked the convention to go on record as to just what should be a test for intelligent reading and writing of English. The question was disposed of by laying it on the table.

TUESDAY EVENING.

THE addresses of the evening were delivered by Mr. Ayres, who had addressed the Department during the day, and Dr. E. E. Sparks, President of State College. Mr. Ayres followed the same line as in the morning, speaking on the subject of

RETARDATION: ITS SIGNIFICANCE AND CURE.

When a superintendent in Porto Rico I went to a school to see about putting in new desks. The question was, how far apart to place them. I sent to another school for some first-grade boys. All had been in that grade from one to four years. I sent for six more boys and questioned them. They were not quite so bad, but bad enough. I knew, of course, that a good many pupils failed to pass at the end of the first year, but I had no idea there were so many. I solved the seat question to my satisfaction; but I could not get the first grade boys out of my mind. I wondered what to do about it. The superintendent of education became interested, and we worked on the problem for several years.

When I came back to the United States I found others studying the problem. In the last three years important investigations have been conducted about this subject. One salient fact we discovered was that not half the children remain to graduate from the eighth grade. We do not give an elementary education to half our city children. Each higher grade grows smaller. Why?

There are two reasons: (1) Because some are not promoted. (2) Because of deaths in the upper grades, and the increasing birth rate of the country. Under ideal conditions, for every 100 children in the first grade there should be 87 in the eighth grade.

Dr. Ayres now showed a chart for the rapid falling off of pupils in Harrisburg, Philadelphia, Reading and Williamsport; and said that retarded children rarely complete all the grades on account of their age. Most cities carry their children up to the fifth or sixth grade. Another chart showed that conditions are about the same in Erie, York and Chester. He then said that conditions in all cities are very similar. Not one-half of the children complete the eight

grades. From 30 to 60 per cent. are retarded. From 3 to 14 per cent. graduate from the high school.

Our standard elementary course is eight years in length. The children are supposed to spend one year in a grade. As a matter of fact a few are always held back, who spend a year and a half or two years in the first grade and the same in the second. When old enough to quit these pupils are in the fifth or sixth grade instead of the eighth.

Last June thousands of children received grammar school diplomas. Every paper in the State told about it. *No* paper mentioned the fact that an equal or greater number had leaked away. What would become of a business conducted on that principle—if one-half of its products were broken or defaced? It would fail. The public school system cannot fail, for the public supports it. It is simply a question of the relation of manufactured product to raw material. If vast quantities of raw material are supplied and small quantities of manufactured products produced, that is failure. If a child drops out of school from the fifth grade with little geography and no civics, the subjects he misses are the ones which fit him for citizenship.

What does the presence of the old child mean to the teacher? These children are misfits. They need a different kind of attention from the others, which they do not receive. Either the child deteriorates, or the others are hindered, and the teacher made less efficient.

During the last few years a new profession has sprung into existence—that of the business doctor. His business is to change losing business into a paying business, by stopping leaks. We do not need an expert to stop some of our leaks. After all, they all fall under two heads: Either the child progresses slowly or he does not stay long enough. Why?

Our compulsory law compels children to attend school from eight to fourteen years—six years. Our courses call for eight years' work.

Why do pupils progress slowly? Our courses are not adapted to the average pupils, but to the bright pupils. It is often said that retardation is not important as we always will have bright and slow children; but the bright children cannot counterbalance the slow ones. We must still look after the slow ones.

Dr. Ayres now showed a chart, based on 10,000 New York children, comparing rapid and slow children. The results are striking. For one rapid child eight are slow. He said that two weeks ago he had examined the school records of a New England manufacturing city: 750 children failed last year, 35 received double promotion. For every child making rapid progress, 21 were slow. In one Pennsylvania city the ratio was 1:14. Taking in the whole country the ratio stands 1:10.

Our courses are not arranged for average pupils. Lockstep does not exist in our systems. Things should be so adjusted that there might be at least as many rapid as slow pupils.

In the matter of attendance we have come to believe that 80 or 90 per cent. is a good record. What we really want to know is whether most of the children are present in school most of the time. The chart before you shows the percentage of children who attended more than three-fourths of the time in certain cities: Dayton 76, Grand Rapids 73, Cleveland 72, Springfield 72, Syracuse 70, St. Louis 67, Kansas City 65, New Orleans 63, and Columbus 61. Here is an important cause of retardation. If children are not in school they cannot be instructed. Here teachers, superintendents, parents and legislators must co-operate.

As to Sex: In Pennsylvania there are more boys than girls in all the grades. This is because there are more boys born than girls. There are more boys in the first grade because more boys *stay* there. In later grades there are more girls than boys because the boys are leaving. There is more retardation among the boys. Investigation shows that boys stay in school as long as girls, but do not advance as far. This means that our schools of to-day are better fitted to girls than to boys. We must see that the boys get a "square deal."

As to Promotions: Our old ideas on this subject are all wrong. We have felt that 80, 85 and 90 per cent. of promotions were all the same. This is not true. Small differences mean much. In two systems, 80 per cent. of the pupils were promoted in one, and 95 per cent. in the other. In the 80 per cent. system 20 out of 100 pupils will complete the course without failure; in the 95 per cent. system 70 will do it. The school with one or two per cent. higher percentage of promotions is a superior school. Of course this does not mean that children should be promoted whether fit or not.

In Harrisburg there are probably 50 children sub-normal mentally. They should be taught in special schools. There are probably 250 genuinely dull. These can be cared for in special classes in the public schools. There may be 3,000 over age for their grade. What about them? This is not a question of fault, but of condition. But it is a fault if no special classes are provided, with special teachers who will

give the essential parts of the course. If laws relating to irregular attendance are dead-letters, it is our fault. Some countries have no truants. We should be ashamed to say that where they succeeded we fail. It is not our fault if children come to our schools who cannot speak English. But it is our fault if special schools are not provided for them. It is not our fault if children have adenoids and other defects; but it is our fault if our school houses are so built and managed as to create these defects, if knowing what can be done we fail to do it.

Some persons here are proud of their high standards. The children, they say, must complete the work before promotion. Are they sure they are right? If it is the object of the schools to select the best, then that schools ranks highest which has the smallest number of promotions. No, that system is best which has the highest number of promotions. The good teacher is not he who keeps back children for all kinds of causes, who simply puts the difficulties aside. It is not essential that children shall know all the work they have gone over.

One of the most important considerations is the attitude of the teacher toward the backward child. The "bad" boy is he who whispers, or answers back, or fails to pass or goes to the moving picture show. It is hard for some teachers to realize that it is better for that boy to make good than to be good.

Another factor of importance is the psychological effect of retardation on the pupil. Many children are doomed to lives of failure. They are just a little slow in everything. We are training many of our children to failure. We must make them believe that they can learn *to do*. This is a moral matter. Success is necessary to all. Boys who graduate, feeling that they *can do* are what we want. They need the habit of success.

One-half the children do not graduate. There is a series of leaks. It is not a question of blame, but of stopping the leaks. We must increase the number of rapid pupils until it equals the number of dull ones. No new plans are needed. There is no universal panacea.

EDUCATIONAL PLATITUDINOUSNESS.

This was the subject of an address by Dr. Edwin E. Sparks, of State College, who said that the difficulty of the college is to get learning to the people. Once the idea was to educate only those persons within the college walls. Do we realize how little of the money spent on higher education reaches the mass of the people?

Suppose an agricultural college places a cow in a box, and by means of experiment determines what food is best for producing meat or milk, then comes the difficulty of getting the information to the people.

One experimenter aimed, by means of weather signals on morning trains, to inform a certain region of the probable weather conditions for the ensuing day. Half the people never saw the signals. Many of those who did see them did not believe that anyone could foretell the weather. Few made use of the information.

This continuous education is what the colleges are aiming at—carrying information to those who never entered college doors. Supt. Lose canvassed the shops at Williamsport and found seventy-five young fellows who take a night course in mechanical drawing. At Altoona the boys learn the elements of mechanics. The Pennsylvania Railroad is putting up a special building for the purpose, and State College is sending its teachers there.

We are consantly changing our definition of education. Fifty years ago Horace Greeley demanded the education of hand, mind and eye. Now we have manual training. The sanitary engineer is in demand now. State College is compelled to construct a new sewage system.

The great task of to-day is to feed the population. Can we raise enough to do it? Some people have quit eating some things. If only we could quit eating altogether, the problem would be solved. The cry is, "There are not enough farmers." At State College last fall four students elected agriculture. Recently I received a letter asking us to send a graduate to take care of a 1,400-acre farm, so that the owner might at least get the taxes out of it. The Dean told me that he had twenty such letters on his desk. We do not have the men.

When Washington was inaugurated there were three people in every hundred in cities of 10,000 population or over. Within ten years there were thirty-five; now there are forty. In New England there are miles of deserted farms. The question is how to get city boys to the farms, as the country boys are moving to the cities. In Chicago to-day there are six movements under way to enable city men to move to the country, and they are moving out.

I will not deny the attractiveness of the city—the five-cent theatres, the shops, the lights. My heart goes out to the country boy who longs for these things. I remember how, as a boy, I enjoyed a trip to the nearby town, of 1,500 population, to see the circus. I was lonely in the country.

Nowadays we place the burden for this

condition on the teachers; but I ask this, "Do our courses of study in country schools tend to attract children to the farm?" In arithemetic few problems relate to the farm. They are city problems. The boys do not learn to spray a tree, or the girls to bake or make dresses.

We can make it easier to keep the country boys on the farm by proper schools. But have we teachers prepared to teach these subjects? No; we must first teach the teachers. State College tries to do this in its summer sessions. This summer we will offer a course in simple horticulture, botany, domestic arts, manual training and elementary chemistry (of soils). What will be the result of such effort I do not know. But a beginning of a solution of the problem will have been made.

We have another problem before us—entrance examinations. I should like to cast a brick at rigid requirements. Last year we admitted 450 out of 500 applicants. At present we ought to have an X-ray machine to see what is in a boy.

What we really want to know about a student is, Has he a will to do college work? are his physical habits good? has he habits of study? can he concentrate his attention? has he come to college or has he been sent? We might add, Has he determined to be a credit to himself? and has he chosen good parents? These are the important entrance requirements.

I am no educator or psychologist, but I should like to inquire if we are not merely trimming around the edges of some subjects. Lincoln and Booth were both country school boys. If some teacher had understood human nature better, might not the history of this country have been changed? Heredity has been defined as "a law evolved by scientists for the improvement of every species except the human race." I leave this matter to psychologists and teachers, or I shall be tempted to vaporize upon it.

Dr. Sparks closed his address with a plea for the college education of the one boy in ten who can profit by such a course.

Adjourned.

WEDNESDAY MORNING.

THE devotional exercises were conducted by Rev. A. A. Kelly, of Christ Evangelical Church, Harrisburg, after which Hon. Henry Houck was introduced and made a short address of the kind Pennsylvanians know so well. Mr. Houck desired that no report be made of his remarks.

The first paper of the morning was upon the topic, "How to Apply What We Know about Health to What We Do in Education," by Luther H. Gulick, M.D., director of the Department of Child Hygiène, Russell Sage Foundation, New York, as follows:

HOW TO APPLY WHAT WE KNOW ABOUT HEALTH.

One of the things that we know about children is that they are movable creatures. It is very difficult to have them sit still and yet the school process is such and ought to be such, in a way, that children have to sit still. Children cannot be wriggling over the school-room and at the same time learn to read or write. To learn to sit still is one of the primary requirements of civilization. It is one of the foundations of self-control, but it is accomplished only with great disaster to the child, unless it is intermittent. It is reasonable—it is necessary—that we should demand that children should sit still for a while and then let them move and then sit still again, rather than try to maintain steady sitting still. Hence it follows that, in some ways, no two school periods should ever follow the other in any grade in any school without the child's standing and walking or running or skipping around the room, with deep breathing and moving their arms, accomplishing for the individual in a few moments what we usually accomplish in a longer time, increasing the circulation of the blood, increasing the breathing, and satisfying that instinct for movement which is in certain respects the most fundamental characteristic of life. Children who do this sit still thereafter more readily, have better circulation in the head, as well as elsewhere, and are better able to accomplish the purposes of the school than those that do not.

Please notice I am not proposing something which depends upon the purchase of costly apparatus or upon the employment of an expensive director of physical training—they are all "expensive," you know—or upon the building of an expensive gymnasium. I am talking about the thing which can be carried on by any teacher in any school, no matter how crowded—and there are none more crowded than some of the class-rooms in New York in which this thing that I have described is now being done. It is the practical accomplishment of one of the most fundamental things that we know about children—the necessity for movement in the conduct of education. We call it in New York "the two-minute setting-up exercise." It has been adopted in a good many other cities as well as with us.

Another thing which we know partly—we only know it partly—is how to apply what we know about fresh air to the conduct of the school building. I say we know

only partly, as the ventilating engineers, even the most intelligent, construct the ventilating apparatus on the theory that what is necessary in the school building and in the class-room is to maintain air which is of the same chemical constituency as the outdoor air and to heat it so that the room shall remain at a uniform temperature, supposedly between 68 and 70. But sometimes school rooms get up nearly to 80. We know perfectly well that mental work is not well done when carried on above 70. Recent researches and recent hospital experiments particularly, coincide with the dictates of common sense with reference to this matter of ventilation. I am sure you have often experienced in sitting in a room which is well ventilated—in which the air comes in and is taken out automatically and frequently and in which there are no odors —that you become increasingly restless until you go out of doors, where the act seems different. You cannot define it, but it seems very different.

In some of the wards in Bellevue Hospital, also in the Presbyterian Hospital, they have changed the death rate in a number of diseases where the ventilation was adequate, that is, wards in which the proportion of oxygen in the air and carbon dioxide in it was almost identical with that of out of doors. They changed the death rate by merely opening the windows. The explanation seems to be this, that in opening the windows the element of variable temperature has been introduced. We are creatures that not only demand pure air, but we demand air having variable temperature, and our bodies resent sitting still a long time in a perfectly uniform temperature.

The bulk of our mass feelings, the feeling of wellness or non-wellness, consists not in the health of the vital organs, but in the circulation of the blood and the skin, because nine-tenths of our sensatory nerves come from the skin. That is why a clean skin is such an element of feeling well, because the skin is better stimulated when it is clean. Now the circulation of blood in the skin is influenced by the temperature. If we sit in a room that is perfectly quiet where the temperature stays at a given point, we don't get the kind of stimulus to the circulation, the raising of the blood pressure of the body which is connected with continuous and vidid thinking. What we need is freshness, change, out-door air. When we go out of doors from a room that is perfectly ventilated we feel that we are getting a good breath of out-door air.

When I went to Mr. Snyder, our superintendent of buildings, and talked to him about some of these things, he said, "Don't you see we have a ventilating pressure system in all of these new buildings?" We suck the air up and force it through the buildings and, if you should open the windows in any one class-room, you have the great bulk of all the air rushing out of doors through these windows; you don't get any more air into that one room and there is no more air supplied in the other rooms. If you open at once all the windows in the building it is perfectly safe. Hence new school buildings in different parts of America at a given signal are opening all the windows in the building for two minutes. Two minutes isn't enough except when a gale is blowing to materially change the temperature, but it is enough to give that feeling of freshness to the air. At the end of every period every window in the building may be opened whether there is a good ventilating system or no ventilating system, and by that means accomplish that which both common sense and the latest researches of physiological experts tell us is the right thing to do. Isn't it fortunate that sometimes common sense and science do get together?

In different parts of America we have been developing open air schools within the last few years. We discovered that we had in New York a lot of feeble children; a few had tuberculosis of the joints and very few tuberculosis of the lungs. It was proposed to put them into a hospital, but there didn't seem to be a suitable place for them, and so we said, "Let us have an out-of-door school." We have a number of such schools. Some of them are two sides of a building, leaving two walls open, and others are entirely out-of-doors. They dress the children warmly. They put on flannel bags when it is cold, put hot soapstones to the feet, give them hot milk at ten or eleven o'clock in the morning, see that they move around every once in a while, and take all the proper steps to see that they don't get cold. It is discovered that, just as was to be expected, these children who had been losing in weight, losing in vitality, falling behind in every way and becoming more helpless, began to pick up, increase in weight, increase in strength and the disease of those who had tuberculosis began to be checked. In many cases it was stopped entirely. But the thing that was not expected at all and which happened: It was discovered that many of these children began to go faster in their studies than did those in the grades from which they came. Why shouldn't they? They had fresh air, and the other children did not. The other children had baked air. Now, baked air — well —

I believe that the whole anti-tuberculosis

campaign is to have its chief effect in bringing to all of us the idea and the practices which are dependent upon wholesome living: that is, Why should it be necessary for a child to get tuberculosis in order to get into a school where there is fresh air? There is lots of it out of doors, and it isn't a question of expense of ventilating systems or new buildings. It isn't a question of expert and technical engineers. It is a plain, straight question of opening the windows at regular intervals and opening them wide and have everybody in the room in rapid motion while the windows are open. Those two things cannot be dissociated. Sitting still in cold air is a bad thing, but moving in a cold air is a good thing and the time will surely come when we shall secure for our children, if we don't for ourselves, the benefit of working all the hours of the day in air that is fresh. That means not merely chemically pure air, but this variable temperature—another of the ways to apply what we know about hygiene to the work of education, another case where common sense fits in with science.

There is another way. Some years ago, when I was still practicing medicine, I had the care of defective children. I don't mean slightly defective. I mean real defectives—children who are mentally different from other children, so seriously different that there is no hope of their ever becoming normal. It wasn't a question of slight deviation, but a question of serious deviation. For seven years I had private patients whom I treated daily—I call it "treated," of course, it was entirely an educational process in the handling of them. Then my attention was first drawn to the fact that many of these differences, these abnormalities which seem so profound and fundamental, are partly due to physical defects which can be removed. When I went to New York and had charge in a general way of these cases, I began to think about the very large number of children who are backward, not these mentally deficient children, but the large number falling behind in the grades. Dr. Cronin began to tell us that ninety-nine hundredths of all children who fall behind do so because they have tonsils or adenoids, or do not see or hear well, or have something the matter with them that can be cured. We went into it very thoroughly to find out whether it was so or not. We found that physical defects cause a delay, and that children who have adenoids, for example, take on the average something over a year longer to complete the elementary school course than those who do not suffer from this ailment.

We do know that a considerable percentage of children fail in school because they cannot see well or hear well or cannot breathe well or something of that kind—causes that can be cured. It costs us about $20 more to educate a child who has carious teeth than one who has good teeth, because it takes so much longer in the school. In Germany it costs twenty-five cents per child to keep the children's teeth in order. It is done purely on an economical basis. It is cheaper to keep the children's teeth in order than to keep them in school the added length of time they would have to go with their teeth not cared for.

That is the progressive movement all over the world and we in America are the last. We are behind England, Germany and even the Argentine Republic in this matter of finding out what the trouble is with different individual children and then seeing that it is attended to. That is one of the curious and rather shameful things. I attended the last International Congress of School Superintendents in London and was amazed and ashamed of what I saw there with reference to the reports that came in there in regard to what is being done in other countries and how little there was to report from America. But we are moving and a number of the states are already under way.

In Massachusetts every child in the entire state is examined to discover whether it has defects that will interfere with its education. When these defects are discovered steps are taken to see that they are removed. When you think about it, it does seem foolish to give a child instruction when it is deaf and cannot hear. That should be discovered and the child should be put up front. Or to teach it to read, when only by straining hard it can make out the letters on the page.

There is another step in which I am interested and that is moral cleanliness in a school. When I was a young man, I used to talk about these things a good deal. But it has seemed to me during the past ten years that we really know so little about the subject that we had better not say anything about it. Last winter I got hold of a case in North Dakota that gave me a good deal of light. A principal of a school told me this story. He said that in the toilets of his school building—it was a high school—there were the usual inscriptions on the wall. He had them painted out but they always came back. He got half a dozen of the leaders up in his office and he told them about it and said it was a disgrace and asked if it could not be stopped. He said, "You fellows get together and make it unpopular. Don't come to me, but just make it unpopular." Boys know how to deal with one another in a matter of that

kind. They didn't say they would. The principal had the place cleaned up. There were one or two foul things written—and then no more. Four or five boys looked as if they had been battered up; but no complaints ever came to the principal, and the moral tone of that school was changed. That is a constructive piece of moral hygiene. It seems to me so different from ordinary methods, so adaptable and hopeful, that I like to tell about it. It is a thing that can be done by any man who has that sort of grip on his school.

I am profoundly interested—it is in the line of my whole professional interest—that during the last couple of years all over America in educational circles these topics connected with the health of children are being introduced. We have always had them to some extent, we have not at all as for the past year or two. It is evidence of the great world-wide change of view, change of attitude with reference to the whole subject. During the past centuries the attitude of the world may well be described, first, as one of fear, due to the great plagues. None of you, I suppose, have ever been in a community when there was a plague, when people were dying daily by the score or the hundred from a plague that came suddenly, you knew not how, and you did not know how to stop it or treat it. I was in Yokahoma during the plague of cholera. Every day we read the morning papers to see who of our friends whom we had met but two days before on the street had died; and we were helpless until the plague went over. That has been been the state of the world for countless centuries up almost to the present time.

In 1642 100,000 persons died in London alone of the Black Death, and the whole city was so paralyzed that every one fled who could do so. They burned 50,000 in one great pile, and that was but one of the great plagues that decimated our kind. One-third of the whole of Europe would sometimes be swept in a decade by a single disease. It is only 400 years ago that the average length of human life was less than twenty years; that is, so many died during infancy that it brought down the average length of life to under twenty; while now the average length of life in the United States for men is 42 years and 44 for women. In Sweden it is over 50 for both. Just think! We double the length of human life in four centuries. We wiped out the Black Death; and we wiped out cholera; and we need no longer have malaria; and the annual toll that has been paid for decades of between 500 and 600 lives per year from typhus is no longer necessary. Typhoid is a superfluous disease; and so with nearly all of the great plagues that have been responsible for the deaths of the great majority of human beings during past ages.

We talk about the horrors of war, and we do not exaggerate them; but the annual toll for tuberculosis alone in one year is greater than the total number of deaths from war during the last entire century, to say nothing of the financial cost, the family distress and the pain and suffering. I believe there are persons in this room who will live to see the time when tuberculosis will be as rare as cholera is to-day.

Now, we don't live in that attitude of fear. We don't think much about those things. We have never been so free from the great paralyzing dread of a time when the next plague will take place. We have changed about. We have changed from that fear attitude—fear of plagues. We have protected ourselves. We already know the necessity and are providing ourselves with clean water for our cities. We are exterminating our mosquitoes. We are commencing to see that flies carry a great deal of disease and are commencing to exterminate them, getting rid of their breeding places. We have abolished typhus. We are getting clean, I don't say fresh meat—you notice, I say clean—and that stage is gone by. I mean the necessity for those things has become established. The world is now turning toward the conscious pursuit of that which is something more than the avoidance of disease. We habitually think of health as the avoiding of disease, and the habitual attitude of the physician is "Well, what disease has the person?" And if he has not tuberculosis, mumps or bad teeth or crooked eyes or something of that kind, there is nothing for the physician to do. But that is changing. We are asking the question now, "How may the individual so live as to have the maximum power and force of his disposition?"

The Government published a couple of years ago a little pamphlet on gasoline engines, and there these questions were answered, in so far as the knowledge of the times permitted, by extensive experimentation: "What kind of a crank should be used?" "How much air should be mixed with the gasoline to get the best results?" "At what time during the piston strokes should air be introduced into the chamber?" "How can that engine be run to deliver the most power?" That is the question that civilized men are asking. It isn't a question of how to avoid a broken crank shaft. We have accomplished that pretty well. It is a question now how to live so as to make life the most vivid, the

most powerful, to be able to live at the top of its notch. I don't mean the force top. I don't mean the driving of stimulants. I mean that splendid well-being which men and women have some of the time. How that may be extended to cover all the time, so that all the time they may be able to do the things which are only usually possible some of the time. That is the new attitude, and we see indications of in so many ways. I mention three that seem so curious and yet so convincing.

In the December number of a magazine there are fifty-eight advertisements that talk about health. I don't mean the avoidance of disease. I mean the pursuit of health, or the avoidance of those things that will interfere with full power and vitality. Let me mention a few and you will recognize them. The list of breakfast foods —predigested foods that go right from your mouth to your brain, nerve foods. I don't mean that the claims are good or true. All I call attention to is that they are appealing to the desire for health to sell their goods, which shows that the advertisers believe that that is a good argument or they wouldn't use it. Then there is a pair of health suspenders that would hold a man in the attitude of health even though he is sitting, that they would keep him in good position so that he could work longer without being tired. Then there is coffee that has its caffein extracted. Now the stuff that makes coffee taste isn't the material that makes the stimulant and this man got the idea of extracting the caffein, still keeping the stimulant and taste. Another man thought the same thing could be done with tobacco. He had cigars from which he said all the nicotine has been extracted and yet all the aroma had been left so that children could smoke them without harm. Then there is an advertisement of spring water that you could drink without fear of being contaminated. There were several advertisements of different schemes for exercise, to become healthy by exercise. There were fifty-eight of them in all and I don't believe there were any more in that magazine than an average magazine. You can't pick up a popular magazine to-day and turn over the advertising pages without finding things for sale, the argument for which partly is related to health. Now the advertisers don't do that thing out of philanthropy, nor out of a desire to extend the advantages of health to anybody. They want to sell the goods and they think it is a good argument, and I believe they are right, which indicates a change of public sentiment because you cannot find such advertisements in the magazines of ten years ago.

In our subway trolley cars there are spaces in the top in which they put advertisements. Look at the next car into which you go and you will probably find three or four that mention health in one way or another. I found one car in which more than half the advertisements in the car had something to say about health one way or the other. That is very much more than the average, but I have never found the car in which there was not at least one that talked about health, or mentioned it, or referred to it.

There is another thing which seems to indicate even more profoundly a change in the folk mind, in the minds of the whole people, with reference to health. That is the change in the character of the heroines in the best sellers. If any of you are interested and will follow it up and will pick up a dozen of the best sellers of fifty years ago—I don't mean the classics, I mean the books that were the most popular—and look up the kind of girl she was, how she was built, how she acted and how she stood and walked and how she felt, on the whole, while there are exceptions, it is a very different type from the kind that is the heroine of the best sellers now. The heroine of fifty years ago was something like this. She was never tall, but she was delicately moulded and her complexion was alabaster —we would call it enæmic now—the light would go through the skin showing there was very little blood in it. She was a fragile lily. She was a clinging vine. She fainted when anything particular happened, and was always pursued, and her appearance was such that we men wanted to take care of the dear helpless creature, the helpless beauty, helpless, incompetent beauty. But that isn't the type that appears in the novels of to-day. The girl to-day stands on her own two feet and she plays her part in the game with splendid exuberant health, able to do her own part, happy, healthy, vigorous, affectionate, but able to stand up. She doesn't faint to be caught in the arms of the waiting gentlemen. He faints as often as she does now-a-days. She goes into the game, whether it is tennis, golf, swimming, scholarship or voting with the same sort of devotion that has actuated the leading women during all the ages. This type of the heroine the people like. If they didn't like them they wouldn't be the best sellers and we love that sort of a girl. Doesn't that represent an enormous change? To me there is hardly anything that could indicate this change of the whole world from the fear of disease toward recommendation of health and wholesomeness than this.

The third and last change that has occurred, I think some of you here will recall.

We still ask the question, "Good morning, Dr. Schaeffer, how do you feel this morning?" That is the remnant of that old attitude in which the first topic of conversation was, "How did you sleep last night?" But the person who now-a-days ventures to go into society and hand out as conversation a description of his own morbid feelings is never welcome twice in the same place. We don't want it. It isn't wholesome. The microbe of suggestion with reference to bad feelings is just as virulent as the germ of tuberculosis, I believe. Even in our sanitariums, our good sanitariums, the patients are not allowed to get together and talk over their symptoms or their treatment, because we recognize that the suggestions that come from each other have a harmful effect. The whole world has changed and we are willing to talk health, power, vigor and happiness; and we are unwilling to talk, unless there is some special reason for it, about our pains and our sufferings and our lying awake at night and how we had to walk the floor with the baby last night. In other words, consume your own smoke and play the game with the public, play it square, not bring in all these other things. That is a profound change.

I am going to mention one other thing. I said I wouldn't, but this is new. People are allowed to stay young now as they never have been, in two ways. First, physically. Most of the world has been overworked, always been driven by long hours of hard muscular work and hence have become old pretty rapidly, but we have changed that. We have taken most of the heavy muscular work off the world, and are doing it better than it has ever been done. We are doing it by machines—the great digging, the hoisting of timbers, the steel units for bridges and buildings, making roads, plowing our great Western fields, sawing wood, making shoes, making clothing. Most of the things that you can name that require great energy are now done by steam or electricity in some way and the human factor is the director, not simply the motive power himself. That leaves the human being relatively free. Take the domestic life of women. A century ago—I don't know about your Pennsylvania women, but the New England women were fearfully overworked. It was the custom in New England for the women to rise at daybreak or before and get the breakfast for the entire family. The mother worked all day, taking care of the children, of the house, of the little garden, probably of the milking and of the chickens, and she worked at night after her husband had quit his work and come in for supper and had his feet up in front of the kitchen range. She bore the children—many children, too—and the average woman of 25 or 30 in New England was an old woman physically, because she was exhausted by long hours, long days, long weeks, no vacations, unremitting, even severe, muscular toil. That has gone by, thank goodness! so that we are not old before our time now because of severe muscular work. There are other reasons that make us old sometimes, but not that.

Then on the social side, society compelled a woman soon after her marriage to put on the clothing of old age. Married women between the ages of twenty and thirty were no longer expected to do the things that young people do. They settled down and wore the bonnets of old age and the clothing of middle or advancing years.

That was the social decree, but you can't tell how old a woman is now by looking at her clothes. I have tried time and again, walking on the streets of New York behind women, to make a guess as to how old they were by looking at the color of the gown, the lines of the gown, the carriage of the person, by the springiness with which they walk. Sometimes you guess right and sometimes you guess wrong, because women are now able to dress and to stand and to walk and to use colors and form and fashions. All that we demand of men or of women with reference to clothing in these respects is that they shall dress as they are. If a man or woman is old, then they ought to dress old. If but thirty, thirty-five, forty, forty-five or fifty, still with the bounding pulses of youthful enthusiasm, welcomed by society, by us all, let him or her use color, glad clothes. Let us stay young for the world expects us to be young. I believe in this reconstruction of the world with reference to the power and sweep and maintenance of youth, and in this reconstruction the school is a dominant factor.

Supt. Samuel Hamilton, of Braddock, Allegheny County, then made "A Plea for Industrial Education." On being announced by the President, he said: "I certainly appreciate this invitation to address you this morning, yet I realize what a problem I have before me when I see that upon your programme has appeared so many distinguished specialists from outside of the school work. I am only a County Superintendent, yet I have a large number of graded schools in our county and all the problems that appeal to you in your cities, appeal also to us. When this invitation from your Executive Committee came to me through your President, inviting me to a place in this programme, I suggested to

him a half-dozen subjects that might be discussed and he selected the one that I am to present to you this morning." He then read the following:

PLEA FOR INDUSTRIAL EDUCATION.

The most general and significant educational movement of this age is the movement toward industrial education. Instead of being confined to any city, state, or nation, it is actually world-wide in its sweep. The National Educational Association during the past year has devoted possibly one-fourth of the time of the association to the discussion of this subject. And strange as it may seem Pennsylvania, that ought to lead in this movement, has scarcely taken time to consider it. The great educational leaders and statesmen in this state fifty years ago failed to see the wisdom of taxing for state purposes the coal oil, gas, and lumber taken from our commonwealth to enrich the world. What a permanent school fund such a tax could have created! Will the leaders of today be censured fifty years hence for their failure to provide for industrial education? This question the future alone can answer.

Industrial training is a comprehensive term. It includes the training given in trade schools, factory schools, technical schools, continuation schools and agricultural schools. Collectively these various schools are sometimes designated as vocational schools.

For clearness in this discussion it may be well for us to point but the field and the function of each of these subdivisions of industrial training.

1. A trade school, as the name indicates, aims to teach a specific trade or vocation.

2. A factory school is a school that gives the general preparation for work in a factory where employees operate mainly through machinery. The course in the trade school and the factory school does not properly begin until the pupil is sixteen or seventeen years of age. Consequently the work of these schools cannot be engrafted upon our school system below the high school.

3. A technical school is a school that aims to prepare teachers, leaders, foremen, specialists, managers, overseers and superintendents who are to organize and direct the work of industrial education. The trade school and the factory school train the workmen; the technical school trains the teachers and leaders. It also gives instruction in highly specialized trades and professions. It aims to give scientific knowledge of the method of performance of a trade as well as skill in it.

4. A continuation school is an industrial school where apprentices and persons already employed in industrial work may receive the training that will make them more skillful, competent, and efficient in their several callings. The sessions of these schools are generally held in the evening in order to interfere as little as possible with the pupil's regular employment. In Germany the sessions of the continuation schools are sometimes held on the Sabbath when religious instruction is added to the course.

5. Agricultural schools are industrial schools that train for the general vocation of farming. They differ from the agricultural college whose function is to train professors and teachers of agriculture; the one trains the masses who are to farm; the other, the great specialists who are to teach, manage and direct.

6. There is still another industrial school that may be termed a general elementary industrial school. It affords the elementary hand training that gives a mastery of tools, a general view of trades, and leads to them. Its course is partly industrial and partly academic, providing both hand work and book work including related courses in drawing, mathematics, science, history, and civics. Its aim is industrial and technical—not academic; but, since all training has some cultural value, its results are partly vocational and only partly cultural. In a sense it is a sort of general preparatory trade school, whose industrial work is intended to supplement the regular work of the seventh and eighth grades.

The results of industrial courses are a knowledge of materials, a mastery of tools, industrial skill and efficiency, workmanlike methods, careful habits, the ability to plan work, to take care of tools, and to economize in the use of materials. Industrial training dignifies manual industry, fosters enthusiasm for work, and lays the foundation for social and civic efficiency.

Manual training and domestic science can scarcely be regarded as a part of industrial education. Instead of falling within that field they rather form the gateway to it.

Manual training is constructive hand work as a general feature of school work. The Commission of Industrial Education in New Jersey, says: "It is not vocational in its aim. It does not prepare for specific vocation or trade. Its purpose is purely cultural and it is of value to all alike, whether a trade or a profession is entered upon." Thus manual training is the kindergarten of industrial education.

Training in domestic science and art is the training intended to prepare home makers in a general way to solve the important problems that must finally confront them. Its aim is cultural although its results are also vocational. Its purpose is not to make trained cooks or dressmakers, but rather to give the elementary training that is the basis of all domestic art.

It is not the purpose of public education as now organized in this state to turn out dressmakers, carpenters, or tradesmen. That is the function of the trade schools and the state is not yet ready to make them a part of its system. It may, however, and possibly will do so, not in twenty years or even thirty, but eventually. At present trade schools are too expensive and to engraft them upon our system means its fundamental reorganization. To this end the attempt to organize trade schools in the state of New York and this general movement toward industrial training in Massachusetts and New Jersey will be watched with interest. Our high schools, however, now largely cultural and academic, can and should be made partly industrial. They train typewriters, book-keepers, stenographers, and give

the general culture that is the basis of professional efficiency. And they should continue to do so. But they must do more than that. The industrial school idea of the Old World is rapidly finding a fertile soil for growth in this country, and, ere long, will force the American high school to become partly industrial. This school is supported by the general public, and should serve not one-twenty-fifth of the people, but all of them by giving some industrial training.

There are two elements of difficulty that must be met in every effort to industrialize our system of education. The first is the element of time. The curriculum of the elementary school is too long and too difficult to be completed in eight years. And even after proper elimination of unimportant subject-matter, it will still be difficult to find the time required for industrial work. The second element is the element of cost. Equipment, maintenance and material for industrial work must of necessity add to the cost of education. At present it is difficult to find time and money for regular school work, and every effort to industrialize public education must necessarily augment that difficulty.

It is to be noted that manual training and domestic science are purely cultural in their aims; their purpose is not to make carpenters or cooks, but better men and better women. To this end they are theoretically and legally a part of our school system, and without legislative enactment, may be made a part of the curriculum in any district in the state. And since these two subjects constitute the first steps that can be taken toward industrial education, the plea is for them too; yet the drift in educational thought is strongly toward vocational and trade schools, and manual training and domestic science at best are regarded by many as poor substitutes for the industrial training that this age demands and which the school is expected to supply.

It is surprising that our state has accomplished so little in this field. We agitate, rather than organize; we instruct on the platform, but we do not construct in our offices; we think and dream, talk and write, but we do not act; we are long on theory, but short on initiative. As a result industrial education crawls at a snail's pace in an age when it should run, and must run, if it is to keep abreast of the advancement in other fields.

For twenty-five years educators in this state have advocated in a half-hearted way the introduction of manual training and domestic science and art into the school; but outside of a few centers that seem to be blest with local initiative, nothing worth enumerating has been done. We have convinced ourselves, but we have not convinced the boards of education and general public that these subjects are a necessary part of the curriculum. Indeed it would seem that the proper place for the discussion of this subject now is not with educators, but with directors' associations and boards of education. And possibly before we can move them to action, it will be necessary to organize a campaign of agitation and discussion that will reach the people, the great primal source of power in a democracy. To this end our discussion of the subject this afternoon is not so much *the what* of industrial education, but rather *the reasons for action.* And first, let us examine this subject from a view point somewhat new and novel.

John Ruskin, England's famous art critic and philosopher, once said that every man should know three things: namely, "where he is, where he is going, and what he had better do under the circumstances." He further declared: "The man who knows these things, and has a will so trained that he is ready to do what he knows he ought, is educated; and the man who knows them not is uneducated, though he should talk with all the tongues of Babel." A state in some respects is like an individual. And wise indeed is the state that knows where it stands educationally, where it is going, and what it should do to reach the desired end. For causes acting today work out the destinies of tomorrow, both with individuals and with states.

Every child has three distinct heart-hungers, and as these dominate the individual, they divide the race into three classes: First, those who long for intellectual training and literary culture; second, those who seek moral and religious truth; and, third, those who pine for physical activity and manual industry. The ideal of the first is culture; of the second, morality; of the third, efficiency. These three heart-hungers are partly natural and partly due to the demands and rewards of our complex civilization. And the system of education that does not feed them will be eminently unsatisfactory to, and ere long repudiated by, the class it fails to nourish. Indeed, the fundamental weakness of modern education is that it overfeeds the first, and literally starves the second and third classes. The demand for moral instruction, manual training, and all sorts of industrial work in our schools is an evidence of this weakness, and the Tech School of Pittsburg, with its marvelous growth and liberal patronage came into being through the kindness of Mr. Carnegie, because of this weakness and because of the presence of the heart-hunger that cries out for manual efficiency.

The leading characteristic of the members of the first class is scholarship. They long for knowledge; they enthrone culture as an ideal; they enjoy its possession; they seek its fellowship; they worship at its shrine. To them, the book, the school, and the library are gateways to a paradise of pleasure where flowers perfume the air and birds make it vibrant with their song. They love the school as now organized and neither attraction nor coercion is needed either to enroll them or to guarantee their attendance. This class is composed of the people who finish the course, go to high school and to the higher institutions of learning; and in this class are found the great scholars, men of letters, professional men generally, and the people who are supposed to have pre-empted for themselves large domains of what the world calls liberal culture. Since less than 15 per cent. of the children go to high school and less than 3 per cent. to the

higher institutions of learning it is readily seen that this is not a large class.

The second class has a very different heart-hunger. It longs for moral, spiritual and religious truth. To this class goodness is better than greatness, and manhood and character outrank knowledge and culture as the sun outranks the stars. "Do right," is their motto. With them conscience and heart are far above intellect and scholarship. They are moral, devout, pious; and because the school gives little attention to the cultivation of their ideals, they become dissatisfied with it, and drop out as soon as possible.

From this class come the great moral, religious, and spiritual enthusiasts, and when the intellectual type of the first class is blended with this type, the union gives us the great religious leaders of the race, the men who have created for us our systems of theology and our religious literature. This class demands more moral instruction in the school. The demand seems reasonable; yet the effort to supply it has divided educators into two great camps—those who believe moral instruction should be given directly and those who think otherwise. And one of the great educational problems of to-day is how the school, in a nation where the church and state are entirely separated, can give this instruction without encouraging sectarian dissensions. This, too, is not a large class.

But a large class in every community can scarcely be forced into school because of its heart-hunger for motor activity which culminates in manual industry. All men, perhaps, are slightly interested in knowledge, and many of them in some phase of morality or religion; but a large class is naturally and strongly inclined toward industrial pursuits. Girls as well as boys, partly through this heart-hunger and partly through necessity turn from the school to the shops and factories. These institutions offer opportunities that will not be disregarded. They not only satisfy the heart-hunger that yearns for manual industry, but they also pay out their richest rewards to industrial efficiency. The wealth of the world springs from the soil, the mines, the fields, the forests, and the water at the magic touch of scientific efficiency. Man is fed, clothed, housed, and civilized through human industry. And modern civilization joins hands with this heart-hunger and demands that a large number of our people shall be trained toward manual efficiency.

Each of these three heart-hungers is natural and each should be fed. And the school system that neglects anyone of them needs readjustment. In our system this readjustment is imperative. And the marvelous growth of all forms of technical training in the past twenty years points unmistakably to the fact that this readjustment is actually taking place.

England, as a nation, feeds this first heart-hunger. The English believe mainly in an intellectual pabulum, in classical culture, in the traditional studies, and in the literary courses handed over to them by the Middle Ages. Their schools of all grades have small equipment for science, because classical culture is enthroned as their ideal. Fifty years ago Herbert Spencer, with the vision of a prophet, predicted the disastrous effect that this neglect of science and of industrial training would have upon the English people. That prophecy has been fulfilled and England to-day is reaping the fruits of her neglect in her vanishing markets and the premature decay of her industrial supremacy.

On the other hand, while Germany believes in culture, she also believes in feeding this heart-hunger for industrial efficiency. Her system of industrial education is the finest in the world. The Germans study things as well as books; they believe in critical investigation, scientific inquiry, original research, practical utility, and in the commercial value of manual efficiency.

Each of these nations is gathering the harvest peculiar to its sowing. Each has developed a splendid civilization, a strong government and a sturdy, self-reliant people. Each has produced great scholars, great statesmen, great orators, great artists, great inventors, and a literature rich, varied, and abundant. But Germany is the home of industrial and technical training. For decades she has known where she is educationally, where she is going, and what she should do. As a result she controls the markets of the world and bids England take a second place in industrial affairs. The high grade technical schools of Germany have given her a commercial supremacy that is undisputed in the great family of nations.

Japan is a fine example of education for industrial efficiency. As a nation she has been transformed almost in a generation. In a lifetime she has stepped unaided out from the dusky shadows of oriental barbarism into the full glare and light of occidental civilization. And her marvelous transformation has been due in a large measure to compulsory education, to her liberal endowment of universities, and especially to her fostering care of technical training. Education in Japan is a business proposition, not a matter of custom, sentiment, or precedent. In conservative England the child must study "the things a gentleman should know" whether they are useful or not. But Japan prefers science and technical training to the earmarks of gentility. She ties education to life and makes it as far as possible an instrument of national progress.

The school systems of our nation have been organized largely in the interests of this first class. We study books to the exclusion of things. Our courses all emphasize the intellectual and the literary phases of training to the neglect of the physical, manual, industrial, vocational, and moral. It is all book, book, book. In the elementary school and the high school pupils must wade through or skim over more than 20,000 pages of traditional subject-matter, a part of which is not very important. As yet, we have made almost no provision for the work that satisfies the second and third great heart-hungers.

At present our schools give nothing that leads to craftsmanship or industrial efficiency. Our whole system of education turns upon an academic pivot. It aims, unintentionally per-

haps, yet nevertheless surely toward professional life, but it does not help to train workmen. "From the bottom to the top of the school system," as Dr. Draper so aptly puts it, "the eye is on the school above, and the school above leads to a professional life or to a managing employment rather than to trade vocation."

His plan for relief is as follows: "At the end of the present sixth grade let the system begin to separate into three distinct branches. First, the present high school system which would be somewhat relieved because of the new system; second, business schools looking to work in offices, stores, etc.; and third, factory and trade schools looking to the training of workmen."

And the inauguration of such a system would be a blessing to the children of the bread winning masses and to the civic and industrial efficiency of American workmen. For as that distinguished educational leader so forcibly expresses it: "We cannot escape the fact that the elementary schools are wasting time, and that the lack of balance in the educational system is menacing the balance of the country."

But we are now in a state of transition; at least we are beginning to see where we are educationally, whither we are tending, and what we should do under the circumstances. The old is rapidly giving place to the new, and the school of the future will find abundant time for this industrial work so long neglected. That school will be one-third book study, one-third shop work and domestic art, and the other third devoted to the physical development and the moral training that make for health and manhood.

But there are some causes which tend to retard the introduction and the progress of industrial education in this state.

1. We have no state course of study suggesting or setting forth what should be done in this field. Each local district has been allowed to take the initiative in this matter or to remain inactive. In most cases it has chosen the latter.

2. The regular high school teacher cannot give instruction in the industrial department. It is difficult, too, to get money for regular high school equipment, which in his judgment is more important than the equipment for industrial work. Then, too, many high school teachers view education entirely from the professional and academic standpoint. Thus it happens that many good high school teachers are not enthusiastic in urging the claims of industrial education.

3. The third cause that tends to delay the advent of this industrial work is the presence of fake teachers in manual training and domestic art, who ride their little hobby, as if it were the only subject in the whole curriculum, who fail to organize the work upon a basis any more pedagogical than the making of mud pies, and who fail to correlate it with the studies of the school. We have many good teachers in these departments, but we have also those who fail to make good.

4. A fourth cause tends to delay the advent of that ideal school. The honest, hard-headed men who compose our boards of education may not exactly regard these industrial subjects as fads, but they seem to regard them at least as non-essential; hence, they refuse to vote the money necessary to organize and direct the work.

5. But possibly the greatest cause that delays the advent of the school that will feed these three heart-hungers is the domination of old educational ideals.

Ideals are prophets of the race foretelling what will be and pointing the way to better things. We hear their story, see their vision, dream their dreams; life on existing planes becomes common place and we step up higher only to be lifted again by more glorious visions and more enchanted dreams.

The ideals of a nation are vital because they determine the purpose of its system of education. Sparta, through training, sought courage; Athens, beauty; Rome, eloquence and power; Monasticism, piety; the Renaissance, classical culture; but the purpose of our system of education, if it has a settled purpose, is efficiency—a civic efficiency whose cornerstones are intelligence, character, and utility.

It is to be noted that modern education is wavering between two ideals, that of the Renaissance and that of to-day. The college with its traditional studies and its classical courses, still marches under the banner of the Renaissance handed over to it by the dark ages before the day of modern science. But our industrial schools, our universities and our technical schools, with their industrial work, their scientific research and their technical courses are creating a new ideal. They stand, not for culture alone, or efficiency alone, but for culture and efficiency. Classical culture is by far the richest field in which the race has ever fed; but it is not the only field. And our systems of education as supported by the state are gradually yet surely turning from the old ideal to the new.

The education of the Renaissance was based upon two theories now generally rejected. First, it believed that formal mental discipline was the chief intellectual aim of every school course; and, second, that classical culture gave all of this discipline needed. These two theories have given us the highest and best educational ideal the world has ever known; and modern culture, intelligence, and civilization are the results of the systems of education created by this ideal.

But while formal discipline and the all-sufficiency of classical culture have been abandoned by science and psychology, the ideals of the Renaissance still dominate the college and to some extent the high school, and such domination is regarded by Bagley "as a commentary upon the snobbish tendencies which a democracy may inherit from older forms of government."

Thus, our education is still partially controlled by the powerful ideals of the past. But the old ideal, as an ideal, is doomed. The old star is receding, and fading as the pole-star of our educational purpose. A new star is in the ascendancy, and a new era is at hand. Its ideal is not culture alone, or morality alone, or

efficiency alone; but culture, morality, and efficiency, blended, fused, and unified in a system of education that will give a product with all these ideal qualities. Good citizenship demands not only intelligence, character, and morality, but also utility. And the new ideals toward which we are turning will ere long give us a school that will not only feed the heart-hunger that cries out for knowledge, but those other heart-hungers that demand moral truth and manual efficiency.

You are familiar with the reasons that may be given for the introduction of industrial work and especially for manual training and domestic science. But for the benefit of those who are not here and who may read this discussion, I wish to summarize, as briefly as possible, some of the most important.

1. Motor activity is a natural heart-hunger of the race and manual efficiency is the dominant heart-hunger of a large part of it. And a system of education in some measure should, and eventually must attempt to feed these heart-hungers through some phase of industrial work. This argument has already been presented at some length.

2. There is a good financial argument in favor of industrial training. Skill and efficiency always bring more in the labor market than inefficiency and mediocrity. The report of the Bureau of Commerce and Labor shows that unskilled men in machine industries earn on an average a little less than $10 per week; skilled men in the same work earn a little less than $20 per week. In building trades the average weekly wages of unskilled workmen is about $12, while skilled labor in the same trades earn about $24 per week. But the technically trained mechanic makes a still better showing. The average weekly earnings of all the graduates of the Newark Technical School is about $42; while that of the graduates in machine industries is about $58. Thus skill earns twice, and technical training between three and four times as much in the same time as mediocrity.

3. As a matter of simple justice domestic science and industrial education should have a place in the school. In the United States four per cent. of our people enter professional fields, while 96 per cent. find employment in manual occupations. The high school now gives vocational training to the four per cent. of our people who enter professional life as stenographers, book-keepers, type-writers, teachers, lawyers, dentists, doctors, ministers, and engineers. It should continue to do so. And all whose goal is professional life should take this course. But has it any right to neglect or to refuse to give industrial training to the 96 per cent. of our people who are to toil with the hands, in the home, shop, factory, mill, mine, or on the farm? Industrial work asks for a place in the school, not as a favor, but as a right. Simple justice demands that we provide for the vocational masses as abundantly as our high schools now provide for the professional classes.

4. The press of poverty and the burden of bread winning laid so heavily upon the masses argue strongly in favor of a place for industrial work and especially for domestic science and art in the school room. After leaving school many of the girls of the working classes must of necessity find employment for eight or ten hours a day in stores, offices, factories, laundries, or shops. As a consequence they have little time for learning to cook, bake, cut, sew, and for the various domestic arts so essential to happy home making. By an inevitable law of nature they are eventually to become the wives of men and the mothers of the race. Yet for weal or for woe, they must enter almost without preparation upon their duties as home-makers, the most sacred and charming realm in the whole world of womanhood, simply because stern necessity compelled them to toil in factory or in office.

5. We need manual training and domestic science in the curriculum in order to interest more of our girls in house work, more of our boys in the ordinary forms of manual industry, and to dignify their notion of the work. Aside from the fields of skilled labor, you can scarcely get an American to do ordinary house work, farm work, or manual work of any kind. Every parent now aims to have his child educated for professional life, to escape as he argues the so-called drudgery that was his lot. How pathetic the argument! How foolish the notion! Work, however humble, is not drudgery; it rather educates, elevates, and ennobles the worker. It is God's great instrument of human development; and the ultimate purpose of education is not to escape work, but to be interested in, and to prepare the individual to do more and better work. No work in which the worker is interested is drudgery; and all work without heart in it, even in professional lines, is disagreeable, ignoble and slavish.

Many pupils leaving our schools now turn in disgust from the common forms of employment to enter professional life in the inefficient, half-baked stage. And industrial work in the school would help check this tendency and create that interest in honest work which pulls the slavish sting of drudgery and dignifies both the toiler and his work.

6. The industrial revolution of the past thirty years, through division of labor, factory organization, the introduction of machinery, and the system of paying by "piecework," has given a fatal blow to the apprenticeship system and made it almost impossible for a boy to learn a trade. And while many of the trades have disappeared we still need skilled workmen.

To prepare them manufacturers in many instances have organized special schools in which to train workmen. Organized labor has looked with disfavor on these schools as efforts to prepare a non-union skilled worker for "scab" labor and strike-breaking purposes. But it is not opposed to industrial training as given in a school supported by the general public. John Golden, president of the United Textile Workers of America, declares: "Organized labor realizes just as keenly as anybody else that this movement in the interests of industrial education is not a fad, but a

stern reality and an absolute necessity, if this country is to preserve and maintain its industrial supremacy." John Mitchell says the high schools that now prepare pupils for the professions ought to teach the principles of mechanics to all who are to follow mechanical trades.

Germany's industrial school system has enabled her to seize from all rivals the world's prize for industrial superiority. And because of the decline of our apprenticeship system, and because also of the necessity for skilled workmen, our national pride, as well as our interest in industrial supremacy, and in the future prosperity of our people, plead eloquently for the introduction of industrial work in our schools.

7. The school needs industrial work to aid boys in selecting a trade or vocation that they will like and for which they are fitted. At present some of the graduates of our high schools have not sufficient knowledge of the industries of their communities to select intelligently an occupation. This must be charged to the school, not the graduate. He knows what it is to be a carpenter, a painter, a bricklayer, a stone mason and possibly a plumber. Beyond this his knowledge of industrial pursuits is vague and shadowy. As a result he generally loafs for a year or two and finally drifts into an occupation which he does not like, for which he is not fitted. Without interest in his work it becomes drudgery and the worker is likely to become discontented, unhappy, sour and pessimistic, and consequently the worst possible material for civic efficiency.

8. Character is the great end of education, and *industrial work is an essential factor in the development of the child's character.* Educators believe this work just as valuable and necessary an instrument in the ethical training of the individual as the study of books. And since the home under modern urban conditions cannot adequately supply this factor, the school as the great organized aid to the home must come to its assistance.

Motor activity finds its outlet in honest toil, and the contribution that it makes to the child's *character* is just as rich, possibly, as that of any other specific line of school work. Earnest, self-directed effort is the basis of all habit and the very cornerstone of character. Nothing so crystallizes the crude charcoal of childhood into the diamonds of humanity, as systematic, self-directed effort. Ideals may lure and lift, urge and impel; but the self-directed efforts to realize these ideals are the very stepping-stones by which the child rises to the realm of true manhood. And if he is ever to build for himself that most beautiful of all temples—nobility of character—and dwell therein as a great soul of good quality, honest toil, intellectual or manual, must lay its foundation, lift its wall, arch its ceilings, sculpture its marbles, tint its frescoes, round its domes and point its spire heavenward.

The ninety-six per cent. of our people who earn their living on farms, in mills, factories, and shops, have just as much character as professional men; they think just as well, but in different fields. And the new educational ideals toward which we are turning demand manual training and domestic art as part of the child's education, not only because they lead to efficiency, but because also of the splendid contribution they make to character. What a man does as a matter of choice and systematic effort determines what he really is. And blind is the educational policy that does not see that manhood and character are developed far more by doing things and thinking things, than by reading books about the deeds and thoughts of others. The weaving of a mat, the making of a sled, the cooking of a meal, the drawing of a picture, and the fitting of a garment are just as valuable to the child in the contribution they made to his *character* as the demonstration of a theorem in geometry or the translation of a page of Latin or German required for college entrance. And a full recognition on the part of the people of the worth of manual industry in the formation of character will ere long give us a school that will feed the heart-hunger of the race that yearns for manual efficiency.

9. Another educational argument that pleads eloquently for industrial education, manual training and domestic art in the school is the full recognition of these subjects as *factors absolutely essential to the child's intellectual training.* Educators now regard them as such. But the campaign of enlightenment must go on until the masses see them, not as fads, not even as instruments in the development of character, but as agencies positive and indispensable in the child's intellectual training. We know their practical value; and one of the most hopeful signs is that the people are beginning to recognize their educational advantages.

The mind has many powers; but, generally speaking, they may be grouped in two great classes—the powers of acquisition and the powers of expression. A trained mind is one that receives readily and expresses with accuracy and facility. And if hand work, domestic art, and domestic science train these two fundamental powers, they must, aside from their utility, be regarded as educational factors, and therefore are worthy of a place in the course of study. What then is the value of hand training in the acquisition and expression of knowledge?

The study of the human brain with the localization of its functions has taught us many things. We know that it is composed of sensory and motor cells; that the sense of touch through the hand is indispensable in the formation of motor ideas; that to develop this area, it must receive and express motor ideas. Thus the motor areas of the brain acquire and express motor ideas through the hand, *and manual training is actually mental training received through the hand,* just as history and geography are mental training received through the ear and eye.

The mind expresses itself in four ways: First, by language, spoken or written; second, by gesture; third, by drawing, including painting; and fourth by construction, including architecture, sculpture, and the mechanic arts.

The hand must thus express the mind's ideas, by writing, drawing, painting, and by constructing material things; and yet, in most of our schools, we train it to write, and omit the training along the other three lines. Our schools are devoted almost wholly to work that trains the child to acquire and express his knowledge through the eye, the ear, and the tongue; while we neglect to train the hand as an instrument of acquisition and expression.

If this is true, *there are large areas of the brain that will not be developed unless the pupil is permitted to work with the hand;* to measure, draw, saw, sew, cut, plane, and hammer. And the education that feeds only the first heart-hunger is but part of a complete education.

Science cannot estimate exactly the contribution that a study makes to the child's character and to his power to think. But we know there are thousands of men on the farms, in our shops and factories, with slight scholastic attainment who, nevertheless, possess superior manhood, sound judgment, sterling character, and splendid ability to think in their chosen fields. These qualities are more the product of the farm and the shop, than of the school. Book study is not synonymous with wisdom or power. And it is a very narrow view that gives to scholarship a monopoly in either character building or thought development.

10. There is another educational argument in favor of the introduction of these subjects into our schools; and that is the bread-and-butter argument. It is none the less educational because it is practical, and aims primarily to give the individual manual efficiency in order that he may be able to earn for himself and those depending upon him an honest living. Earning a livelihood is not only educational in itself, but one of the greatest factors in the education of the race. Wendell Phillips once said "The best education in the world is that got by struggling to get a living." Food, clothing, and shelter are the first requisites of the race. Their claims supersede even those of education. Christ fed the multitude before he attempted to teach it. A hungry race cares little for culture; and civic efficiency is never the outgrowth of poverty and squalor.

This is the day of congested wealth. One-eighth of our people own seven-eighths of the wealth; and one per cent. of the people own 54 per cent. of the wealth, while 50 per cent. of the people own nothing. More than one-half of the nation is engaged in a bitter battle for bread. Under such circumstances it is idle to speak of culture as the only aim of education. An argument to that end is as weak as a rope of sand. Twenty-four twenty-fifths of the American people work at some kind of manual industry.

To this end a mastery of tools, a knowledge of materials and mechanics, habits of industry and manual efficiency are far more valuable to our boys in their bread-winning efforts than a knowledge of algebra, valuable as that knowledge is. The ability to cook, bake, sew, and mend, and a knowledge of home economics and domestic art are far more valuable assets to wives, mothers and home-makers than a course in civics desirable as it is. And, if for no other than this so-called bread-and-butter reason, industrial work should be given a place in our schools.

11. There is still another argument often heard in favor of industrial work in the school. It is argued that the seventh and eighth grades offer nothing that is either new or vital or really worth while to the child who is not going to high school. The work in history, geography, grammar, and arithmetic is only an enlarged study of what was presented in the grades below.

Many parents do not consider this worth the time and effort and permit their children to drop out as soon as possible. And the question is often asked, What does the child get from this part of his course? What is the *general result* of these two years of extended work? To this question three answers are frequently given.

One reply is that he gets general *training* and *discipline*. But modern psychology seems to be rejecting this notion of formal discipline, although some educators still accept it.

Another believes that he gets *habits*. He does: but habits are special not general. They can be used only in the fields in which they were acquired, and give little power to the child to react in a general way to his environment; hence, these habits, valuable as they are, can scarcely be regarded as general results.

A third thinks that the child gets not generalized habits, but *generalized ideals*. This is possibly the best answer of the three. He certainly gets ideals of work, of application, of industry, of thoroughness. And if he is to undertake the work of this part of the course, it should be mastered because of these ideals, even if the other results are not very valuable.

Thus it is argued that the child going into an industrial vocation gets little that is either vital or essential from the course above the sixth year; and that this part of it could be enriched and made worth while by the introduction of manual training, domestic science, and vocational training.

There are other arguments frequently afforded for the introduction of industrial work in the school. But space will not permit us to present them. Those summarized above are generally considered sufficient.

In recent years the elementary school has been the subject of severe criticism. Much of this criticism has been unfair and unworthy of notice. But there are two criticisms worthy of most careful consideration.

1. It is said that *our schools attempt too much and accomplish too little.* This criticism is well founded and general in its application; for our courses from the kindergarten to the university are overloaded and the daily grind of sacrificing quality to quantity is not peculiar to any one kind of school. We attempt to do so much in the time allotted for the work, that the pupil or the advanced student, as the case may be, leaves school with very little definite knowledge of the things that are vital and helpful.

The lower nerve centers were given to the child that he might be trained to do some

things automatically so that his mind could be free for the contemplation of higher things. The correct automatic use of the common forms of English, of the ordinary combinations of number, and the ability to spell almost automatically the common words in every-day use, too often are lacking. We seemingly have not the time for the routine work that leads to habit and much of the time and effort given to drill is lost because it is not continued long enough to form habit. Under the pressure of this undue haste in education it is difficult for the student to acquire right habits of thinking.

An independent observer who honestly seeks the truth in this matter is likely to agree with the critics that we should attempt less, that some things may be better done, and that the vital things in the three R's must have a larger place in the school.

I have presented this criticism, not because it is a part of this discussion on industrial education, but because of its relation to it. Some argue that if our courses are now crowded why increase the difficulty by adding industrial work. The answer to this will appear presently.

2. Our critics also assert that *the courses in our schools are all academic, literary and intellectual to the neglect of the physical, manual, industrial and the vocational.* This is true. They give no industrial work that leads to craftsmanship or manual skill. In this, our courses are difficult to defend for two reasons:

(*a*) A surfeit of things intellectual in the school, and not properly relieved by the industrial and physical factors, leads to mental dyspepsia and mental fatigue; to the dislike of school, to irregularity in attendance and perchance to truancy. As a consequence through retardation the pupil grows toward educational indifference and intellectual stupidity. Much time is wasted or actually lost, and properly relating some industrial work so as to give mental change and mental rest, thus avoiding mental fatigue would serve to relieve the crowded curriculum instead of increasing the load to be carried.

(*b*) The second reason is no less vital. Public education, we are told, is for social service and civic efficiency. Granted; but social service and civic efficiency cannot be expected from the citizen who is unable to earn a living for his family. The very absence of this bread-winning ability, coupled with love for his family and a desire to provide for it, is likely to make him the special subject of the demoralizing influence of money in politics and in business. The ability to earn money honestly in some manual industry or in some way is the very basis of social service and civic efficiency. And few educators will be found willing to defend our schools against courses of study that are top-heavy with things intellectual and almost entirely devoid of the things that prepare the masses for their life-work. Thousands in our state are engaged in agriculture; why should their children be denied the privilege of studying the subject in the local high school? Thousands also are engaged in manual industry; why should the schools refuse or neglect to train their children for vocational life? Any attempt to answer this criticism of intellectual over-feeding and industrial under-feeding in our schools will be as weak as it is foolish.

In the matter of industrial education our country is thirty years behind Germany and in the prominence given to the work that leads to manual skill and efficiency, the schools of Scandanavia, France, Italy, and even Switzerland are in advance of ours. Moreover Massachusetts, New York, and New Jersey are wide-awake and earnestly trying to find a way to give some vocational training in the school. Under such conditions a brief review of the industrial educational field and the work sought to be done in it, will be of interest to us.

In Germany at the age of ten parents must decide whether their boys are to be craftsmen, or whether they are to enter professional life. Thereafter the boy's education is either mainly industrial of mainly professional.

If he is to be a craftsman, his industrial training begins at fourteen, when he enters a shop as an apprentice or goes directly to a trade school. If the boy is finally to enter some profession he is sent to a gymnasium at the age of ten or eleven. This school offers two general courses, one classical and literary, the other scientific. These courses correspond closely to the courses given in the American high school and in the first two years of the college, and are so organized that the average student can graduate at the age of nineteen.

Since the masses in every nation must pursue industrial occupations and only a small minority enter the professions, it is clear that education in Germany for boys above the age of fourteen is not exclusively but mainly industrial. These schools are of a dozen different kinds, all however unified by this industrial ideal. They are not for the few but for the masses. In Prussia in 1902 there were 1,684 continuation schools giving industrial training to 200,000 pupils.

France also makes liberal provision for industrial education. There are thousands of trade schools throughout the republic that turn out efficient craftsmen and artizans. Scandinavia, Switzerland, and other foreign nations are equally well organized for this work.

The National Society for the Promotion of Industrial Education in the United States reported in 1908 that it is perfectly clear that this is an industrial age, and if education is to serve the whole people it must make provision as follows:

1. For vocational training for boys and girls between the ages of fourteen and eighteen who leave the grammar school and at present have no systematic opportunity for training in the industries. It suggests that the school that would give such training must (*a*) articulate at some point with the public school system of the country, and (*b*) that the grammar school should introduce elementary industrial training in some form.

2. The society also favors vocational training for men and women now in the industries who desire to increase their skill and efficiency by further study. And the report suggests that such training will assume one of two

forms: (*a*) Industrial improvement school. (*b*) Trade Schools.

The Report of the Committee on Industrial Education of the National Association of Manufacturers emphasizes the necessity and importance of industrial education and commends most highly "the action of the National Educational Association which has cordially indorsed (1908) the establishment of public trade and industrial schools of such a character that the graduates of such schools may at once become advanced apprentices or journeymen."

Organized Labor says industrial training is not a fad, but a stern necessity if we are to maintain our industrial supremacy, and it believes that such training should be given, not in a trade school established by manufacturers, but in a school supported and directed by the general public.

In Massachusetts the state board of education and the state commission on industrial education have been consolidated (1909). The act of consolidation provides that the state board of education shall appoint a state commissioner of education and two deputy commissioners, "one of whom shall be especially qualified to deal with industrial education."

In New York, under the aggressive management of Dr. Draper, the state is now reorganizing its school system so that it can provide business schools, factory schools, and trade schools for the children.

The Commission on Industrial Education in New Jersey in 1909 reported in favor of industrial training, but against the establishment of trade schools. It recommends "the establishment of a permanent State Commission on Industrial Education with the local board of trustees independent of the present boards of education." A minority report very wisely objects to the separation of the industrial and academic factors in the administration of public education. And the educational department in that state cordially indorses the minority report and expresses its desire and ability to carry out the recommendation.

In Vermont, Connecticut, New Jersey, New York, Texas, and Wisconsin special financial aid is offered to any district that will give to its pupils the advantages of courses in manual training.

In Illinois "manual training is found in the principal school districts of the state;" in Indiana "it has been introduced generally in the cities and in many consolidated rural districts"; in Massachusetts "it is in the high schools of forty cities and towns, and in the grammar grades of eighty municipalities"; in Michigan "it is in all the principal cities and towns, and many of the smaller municipalities"; in Wisconsin, "manual training has been quite generally introduced into the schools of important municipalities."

The school board of New York City has taken an important step in this matter. Last September it opened its first public industrial school. The twenty-five teachers are men chosen because of their mechanical skill and other qualifications. Dr. Pickitt, the principal of the school, points out the difference between this vocational school and the regular manual training school. The latter, he says, is simply an added appeal in the line of general culture, while the vocational school aims to give a mastery of tools.

Cleveland in 1908 opened a Technical High School in a building erected for the purpose that cost $350,000. Work for both boys and girls is provided. The superintendent reported at the end of the first year that 500 of the 600 students enrolled "were largely from waste product," that is to say, they were pupils who could scarcely have been forced into the regular literary high school. The city has also organized an elementary industrial school for boys and girls over thirteen years of age and not below the sixth grade. The course is both academic and industrial.

In 1906 the Merchants and Manufacturers' Association opened the Milwaukee School of Trades. In 1907 it became a part of the school system of that city. Milwaukee was the first city in the state, perhaps in the nation, to establish trade schools by law.

In 1908 the Board of Education in New Bedford, Massachusetts, organized a system of free industrial courses. Later the city council passed an ordinance establishing an independent industrial school.

Springfield, Massachusetts, in September, 1909, inaugurated a new era in education in that city by opening a new public industrial school. The pupils take book work from nine to twelve in the morning and shop work from two to five in the afternoon. In the same year Fitchburg, Massachusetts, opened a school for Manual Arts.

In 1908 the Board of Education in Rochester, New York, organized an Industrial Improvement School. These cities seem to regard industrial education as a vital necessity and not a thing unworthy of thought and action.

In almost every large city something has been done to encourage vocational training; in some cases this effort is private, charitable, and reformatory, and not a part of the public school system.

The industrial work done in Philadelphia, Pittsburg and other cities and towns of Pennsylvania is too well known to require any mention of it here. The general view of what is attempted in this department elsewhere, however, clearly indicates that vocational training is not a fad or a fancy but a great educational movement that demands sober thought and deliberate action if we are to contribute our part to the solution of the most pressing educational problem of the day.

But the curriculum is now over-crowded. The besetting sin of all grades of schools is the sacrifice of quality to quantity. We must beware lest the child gets a smattering of many things and a mastery of none. How then shall we find time for this industrial work hitherto so much neglected? The answer is more time for the work of education, careful selection and elimination of subject-matter, concentration upon the essentials, and better presentation of the vital facts that make for scholarship and manhood. We must discard some of the dross to make room for the gold.

But the gold must be organized upon a pedagogical basis and correlated with the other work of the school.

President Jordan says: "The world stands aside for the man who knows where he is going." And before the close of this century the empires of the world will stand aside for the individual nation that to-day knows where it is, where it is going, and what it should do under the circumstances. But the world will stand aside for our nation only when we have prepared our people to stand in the front rank.

The message of Ruskin to the twentieth century, we are told, may be put in a single sentence: "Life without industry is guilt, and industry without art and education is brutality." The flesh embodied soul of the child naturally cries out for culture, morality, and industrial efficiency, and we must take heed what answer we make to that cry. For to offer the child culture without morality and efficiency, as we are now doing, is guilt; and to offer him efficiency without morality and culture is brutality.

On motion, a vote of thanks was given Dr. Hamilton for his exhaustive and able presentation of the subject.

GENERAL DISCUSSION.

Supt. Messimer: There is a form of industrial training which seems so inexpensive and for which there is such a positive and growing demand that it will be made a special feature in our rural schools. The demand for this training grows out of certain conditions in this country which, within the last few years, have presented themselves so sharply and insistently that we must meet the demand made upon the schools. The other day there came into my hands a very interesting little pamphlet. A railroad man handed it to me and said, "Here is something that may interest you. I don't understand it." I found that it was an after-dinner speech of William C. Brown, the President of the New York Central lines, at a dinner to the Railroad Men's Association, at the Waldorf-Astoria, last November, in which he gave certain data carefully looked up and carefully presented, and without any clamor or rhetoric, the conclusion from which is so inevitably clear that we must have, as a feature of our public school education, a certain amount of industrial training. He pointed out the fact that if the United States, with its rapidly growing population, keeps on increasing as in the last twenty years by the year 1918, instead of being a raiser of the food staples for the rest of the world, it will be a buyer—unless we reform our methods of farming and teach the cultivation of the food products in our rural schools in the same scientific and systematic manner in which Germany is doing. He gave some interesting data. The average yield of wheat in the United States is 14 bushels to the acre; in England it is 32 bushels; in Germany, 28 bushels; in the Netherlands, 42 bushels. We raise 24 bushels of oats to the acre; in England they have 42 bushels; in Germany, 46 bushels; and in the Netherlands, 53 bushels. We produce in this country but 85 bushels of potatoes to the acre; in Germany they raise 250 bushels. In the Netherlands 275,000,000 bushels of potatoes were raised last year, and in the German Empire 200,000,000 bushels. If we are to retain our reputation as a grower of food products, we must reform our method of farming. We should be able with our great natural resources to produce as large crops of potatoes as the countries of Europe. Mr. Brown says that if the government would simply set aside the price of one battleship, which costs about $9,000,000, it could establish in each state of this Union two farms of 640 acres, as an object lesson for scientific and systematic farming, and have money left.

America is no longer a country where you have the free soil for free men. The last township in the last county of our country has been taken up. At the close of the war in 1865, there was enough land, free land, in Nebraska, Minnesota and Iowa to give every veteran coming out of the war a farm of 160 acres. That prospect no longer exists in this country and when, by treaty or by hocus pocus, the poor Injun gives up some of the Indian Reservation and it is thrown open for occupancy, look at the thousands that skip over the border and have a race to take up land.

If we are to retain our supremacy as a raiser of food products, we must do the same thing in our schools that Belgium is doing in hers. France is doing it, and Germany is doing it. France has 45,000 rural schools, and with every school there is a plot of ground for the scientific cultivation of the vegetable food products and for a scientific study of the nature of the soil. Each rural school in Belgium must have, by law, a field for the scientific and systematic study of agriculture. That is so easily provided for and could be so easily looked after in our rural schools that inevitably it will come. With every rural school there will be an acre or two of ground in which the child can be instructed scientifically as to the nature of the soils and the systematic cultivation of our food products.

Supt. Coughlin: I would like to say that I have been deeply interested this morning in the able presentation of this subject. However, I feel that there are certain things that ought to be taken into consideration in this matter. I recognize that we must study agriculture with greater care, for if the farmer fails to produce the food,

the buyer will have the higher cost of living. I can see at once why the railroad man passed over to his hands the little book. If this country fails to become a producer of grain and we become a buyer from abroad, then the traffic, instead of being on his railroad, will be on the ships, and it would be to his disadvantage to have such a thing occur. There is a distinction to be made between America and the Old World with reference to most of these things. I rather think from the argument this morning that we appear to disadvantage in comparison with the Old World. And yet the people who come from the Old World are not skillful. They offer only muscle in the market of the world and that has been so always, except a few called over to perform skilled work. We wonder why these men have not been trained and educated. Still further, in the Old World the class distinctions are very clearly defined, almost by law. In our own country classification is formed altogether on a different basis. Education is individual with us. In the Old World they educate the classes. Our highest ideal is to develop a splendid individualism. But we go to the extreme when we make education entirely cultural.

I believe there is no time in the history of education in which the educated men of the country should come speedily to the front as in this matter. It doesn't come from the mass of people who offer muscle in the market. It doesn't come from the secondary class, or from the next class above it. It doesn't come exactly from that kind. They are indifferent as to the matter. The idea of industrial education comes mostly from the operator in this country, from the man who wants expert labor, and from those who would get the benefit of the great working mass who must earn their living by daily toil. You recognize that fifty years ago nobody thought of work as a means of education. We were a new people, a people developing a new country, we were on the borders of civilization, and so men became self-helpful and independent, and the practical side of education was largely worked out by the home and the home did almost everything that it needed to do. We have passed into a different age, in which machinery does largely the work that the hand formerly did, and now we can have the same thing done much cheaper than if we did it ourselves.

The thought is coming into the mind of every person who studies sociological conditions that this education of work is in a sense lost, as we compare the latter with the early civilization, and the most important problem for us to-day in education is that the people should come to recognize work as an education, and train the child so far as possible at home. We should not throw the duties that should be performed at home upon the schools. I would say that there is no place on this round earth where labor is more highly esteemed than in this country of ours. In other parts of the world labor is degrading, but in our country it is elevating so far as its principles are concerned. A man here is not judged by what he does, but what he is. The thought to be taken most seriously is the revolution of the purposes of education itself. Education means the wealth of the individual, to create a degree of independence upon the part of the individual so that he can use himself in the affairs of the world. You must recognize the fact that if you train for a factory or mill, if you turn the school into a knitting mill, you are training the lower nerve centers of each individual. It means a particular duty done in a given way. That comes to a factory-worker soon enough. We should really train on the cultural and on the moral side, in order that there may be a proper balance. It will keep the schools busy to do that as it ought to be done.

These people who remain on a lower plane in the industrial life often cannot understand why you compel the child to go to school. They require industrial training in the school and they think the child could be put in a factory and do the same thing and get paid for it. Isn't that singular? Why, don't you see, gentlemen, that the real purpose of the school is to cultivate the cultural side or the practical side that grows out of the theoretical training? I think in most of these discussions we don't recognize the practical side of theoretical training in school. I think the lad that has learned how to stick to a lesson in the school fits himself to go out into the factory or the mill. A few days ago we had this problem before us to establish an industrial school as soon as our new high school is finished. I am interested in this from the practical side. I said to a man running a factory, "What do you want children trained in? Would you like to have them trained to run a knitting machine or weaving machine?" He said, "No. We don't care anything about that, but we do like to have intelligent people, persons who have the spirit of sticking to the thing. The great trouble is they lack in the sticking qualities." So when you put a child down before a lesson until he gets it—that is practical in its bearing.

I recognize that there should be some change in the curriculum and some new

things should be tried, but under our present forms of civilization I don't expect that you will ever fail to teach a child to read and write and to use English. And in our industrial life would it be proper to eliminate geography when your press drops down every morning and deals with the doings of a world? Can we assume that they will ever eliminate history from the curriculum in the training of our children? What we need now is a different balance of our present curriculum and what we can use in an intelligent way in that curriculum. I believe, above everything else in our American schools, we should teach everything that contributes to the independence of the children.

Adjourned.

WEDNESDAY AFTERNOON.

THE afternoon session of the Department was opened with an address by Dr. Gulick on

HOW THE BACKWARD CHILD IS PUTTING EDUCATION AMONG SCIENCES.

Mr. President, Friends: This fanciful title is the product of the fanciful brain of my associate, Mr. Ayres. I am not responsible for it, but there is a certain amount of truth back of the implication of the title, as there is in most of the things that Mr. Ayres says —a certain amount of truth—and it is for us to sift out that which is true.

I do believe that the present great interest in finding out the facts about our schools —facts, as differing from opinions—is due primarily to our increasing dissatisfaction with the number of children who do not graduate from the elementary schools; and in all parts of the country there have been superintendents who have gone at the problem to find out why; and that is the sense in which the title suggests what is undoubtedly true: That is, in the endeavor to answer this question as to how many children are backward and why they are backward, and how much each cause counts, we have been driven to the thing which is called science; that is, certain definite, concrete, measurable facts—how much, how many, instead of "the children are doing very badly or indifferently," which is not capable of measurement. If you say in your city, "The children are doing very well," or in your city, "They are not doing very well," it may be that the standards in your cities might differ so that it cannot compare with another. But if in one city 72 per cent. of all who enter the elementary school graduate, and in another 60 per cent., and in another 40 per cent., they are different facts. I don't mean that those are the only facts to be taken into consideration. There may be conditions in one city having a good many foreigners or a moving population that do not exist in another, but they are facts as contrasted with opinions, and we school men have definitely entered the world of science I believe largely through our endeavor to answer these questions.

For example, "How did the Sage Foundation get interested in this measurement side of education?" In this way. I was then in the employ of the Department of Education of New York City. As I said this morning, I was interested in the statement of Dr. Cronin, that nearly all the backwardness amongst school children was due to physical defects that could be removed, and I went to Dr. Maxwell and said, "This is very important, if true. We don't know whether it is true or not. There is undoubtedly some truth in it, but how much truth we don't know, and we ought to know." He said, "Yes. We ought to know, but we have no facilities for finding out. Boards of education do not appropriate money for the purpose of making statistical and scientific investigations." I said, "If it is possible to secure from outside sources funds for the conduct of an investigation would you approve of such an investigation? and will you under your own name as superintendent of schools issue the appropriate request to the principals and schools of the districts in New York, so that the information needed may come to hand, or may be studied?" He said, "Yes." I went to the Sage Foundation and presented the matter, and a preliminary appropriation was made of $5,000 to try to find out from that city, or from a part of it, because we knew we couldn't study all the children, how much do physical defects interfere with school progress; and Mr. Ayres, who is thoroughly equipped on that subject, we were extraordinarily fortunate to enlist; and he has been the man who has done the work; but that problem has never been treated in that way before. It had been treated from the miracle standpoint. We had treatises on tonsilitis and on adenoids, and there were in existence a great many pictures of how children are changed from being dull and stupid, having enlarged tonsils interfering with the respiration; and after the tonsils were removed, or the adenoids, have the child photographed a year later, showing brightness and improvement in school, but we didn't know "How many or how much." And that is the problem Mr. Ayres went after, and which he has reported to you upon.

That $5,000 was entirely expended before he got any answers whatever, and if the Sage Foundation had not been extra-

ordinarily patient with us, investigation would have ended in absolute failure. Mr. Ayres tried one method after another of dealing with the figures, dealing with these records of endless cases, before he found out how to get at it in such a way as to show the plain, substantial facts that he has given you here. He went into scores of different ways of doing it. It could have been published as scientific researches, that kind of researches that are away up in the air and do not come right down to any one school fact; but it was not for the purpose of performing scientific research that this money was appropriated. It was for the purpose of finding out something that would help the children in the schools; and that we didn't have. So a larger appropriation was made, and it was a success finally. That is how we came into this study of trying to answer definitely the question, "How much, how many?"; measure definitely "How much does having carious teeth interfere with school progress?" It interferes five months on the average. That is worth something. It is the difference between science and opinion, and it is valuable because knowing "How much?" we know how much attention should be given.

By backward children, I do not mean children mentally different from normal children, I do not mean one or two per cent. so defective that we have to class them as different, who are so bad mentally that they never can become normal—I mean just the great block of children who do not make satisfactory progress for some reason or other. In Chicago they have 30 per cent. of seven hundred thousand children who are decidedly below the grade in which they should be for their age. It is a big problem.

You see how innocently we got into that thing. We just wanted an answer to that question, "How much do physical defects really interfere with school progress?" But getting hold of that thing, we got hold of the 30 per cent. and we couldn't let go. In order to answer the question of physical defects, he had to answer the bigger question, "Why are children retarded?" "Why are they eliminated from the grades in the way they are?" We were simply tied up into it, gentlemen. It has become one of the permanent departments of the Sage Foundation work, and I speak particularly of the Sage Foundation, not because it is the only agency in America putting education on a scientific basis, but because it is one of the various different foci of interest in this scientific phase of education to get the facts measurable, so that you can look right at them and say, "So much, so many."

There have already been discussed before you the measurable relations of adenoids to school progress, the measurable relation of bad teeth to school progress. We have a few records not yet at all satisfactory, not yet enough for any conclusion, but simply enough to lead us to go further to ask the question, "How much is lost by the children from preventable diseases?" The percentage that we have now is 16. I think all that is really worth now is that it isn't a negligible per cent., as 2 or 3, nor is it a big per cent., like 75; but it is an appreciable and important problem. We are going after it. We want to know "How much could the school systems of America be increased in attendance if children had no preventable diseases?" "How much money value is there in it?" Because we must consider all these things from an economical as well as the humanitarian point of view; and that question can be answered. It is worthy of answer. "How much would it cost to stop preventable diseases?" Then we can balance the two and see whether it is worth what it costs.

We know in general now that only half of all the children who enter the elementary schools remain to graduate. It is an important fact. These facts which have been presented by Mr. Ayres are scientific in the sense that they are facts instead of opinions. It is not my opinion, it is not his opinion, that children who have adenoids on the whole spend one year and a tenth longer in completing the elementary school course than children who do not have adenoids. It is the record of the first 24,000 cases—then we investigated later 116,000 cases—and the children who had adenoids in that number did take much longer in the elementary school course than those who did not. You see it isn't an opinion, but a fact. Those percentages will no doubt vary in different parts of the country, but with 24,000 and 116,000—140,000 cases—there is some degree of probability that the percentages will not vary widely from it.

I am not one of those faddists who believe that all the results of education can be measured with the foot rule, with the scales, with the stop-watch, with tests of speed through school or in any other way. My first business in the world is to be a decent father to my own family, and I know perfectly well when I look at my own children that they are getting things in school, and sometimes failing to get things in school that are, so far as I see, entirely behind the capacity of at least anything which we now know of science. I presume it will always be so, and I am distinctly afraid of those persons who go into this subject believing that everything can be measured,

that you can size up character in terms of percentages, that you can determine moral sense and the power to resist temptation, and go through the subject and finish it merely in terms of percentage.

"What effect does kindergarten training have upon the subsequent career of the child in the school, with reference to time?" You will notice how frankly I am qualifying it. I don't mean by that, "What is the normal effect of kindergartens?", but to narrow it down to this question, "Do children who take the kindergarten course go through school more satisfactorily than those who do not?" It can be answered. A superintendent in Minnesota was discussing not long ago the subject of the establishment of the kindergarten, and he wrote to a large number of superintendents in different parts of the United States, asking them this precise question, "Do children who take the kindergarten course go through school better than those who do not?" He received 72 answers. Of these 72 persons who, more than any others, are in a position to know, 49 said, "We believe that children who take the kindergarten course do go through school better, but we have no records to show whether it is so or not." Twenty-three said, "We believe they do not go through any faster, but we have no records." Now, it seems to me, here is a point on which we are distinctly culpable. We are spending hundreds of thousands of dollars on our kindergartens. We have had them ever since 1844, ever since Elizabeth Peabody began the movement in Boston. We have had two generations in which we have been conducting kindergartens in America and we have been disputing all this time, "Does the kindergarten help the children in school?", and we have not measured that in one single year because we haven't thought about it in that way—that is all, and that is a perfectly measurable problem.

Take the children who graduate in a high school system in a given year, divide them into groups—those who have had the kindergarten and those who have not—and compare the rate of progress through the schools. That would be one way of doing it. Another way of going at it would be to take all the children in a kindergarten in a given year and trace their school history with those who enter without the kindergarten. "Do the children who have not had the kindergarten course show a steady tendency toward remaining in school longer than those who didn't have this course?" The important thing in this particular question is to find out the answer. There may be half-a-dozen ways of getting the answer, but we ought to have the answer. This is not one of the great problems of education, but it is an aid to which there is as yet no answer. It is one of the things on which we are working.

What is the best age for entering school? I know of no question concerning which there is more dispute in educational circles than this. It is the universal opinion of professors of pedagogy that those children who enter school at eight, nine or ten do better in education than do those who enter at five, six and seven. A friend of mine not long ago felt that this is a burning question about which he must get facts. He consulted all the recent books and articles of those who are professionally engaged in this subject of pedagogy and wrote to every man who had made statements of that kind and asked them, "Upon what evidence did you base your statements?", and there wasn't a man who had a piece of evidence. He believed that it was so, and he knew this child that did. It was their individual cases, but there was no evidence on either side. I mean by evidence a large number of cases unselected, but the facts simply recorded. That is an answerable question.

If we take in any state or in any group of school systems, or any large school system and classify according to age, it is a matter of record at what age do those children enter who actually make the most satisfactory progress. We have on hand an investigation of that kind concerning the sixteen thousand children who graduated from the New York public schools last spring, and it is true, that so far the results show that children who enter at eight go faster than those who enter at six; but only a little faster, not enough faster to ever make up the two years handicap that they are under, and a great deal larger percentage of children who enter at six remain to graduate than do those who enter at eight. Now, that is of importance to every parent in America. We need those facts. Questions of that kind are not to be settled by the authority of any person whatever, or any group of persons. If all of you to-day unanimously resolve that eight years is the best age at which to enter school, it would not affect the problem an iota; it would be the registry of your opinion, which is worthy of consideration, but it isn't scientific, it isn't based upon the records of thousands of cases. It is an opinion, not a fact. And we need facts, and we can get facts on that question. On so many of them we cannot get facts, but on that question we can. It can be answered, and it will be of inestimable importance with reference to the whole compulsory education law, "At what age should children be re-

quired to go to school?" At that age at which it is best for them to go to school, not at some other age.

Do elementary school graduates earn more than those who do not graduate? If so, how much more do they earn? What is the plain economic value of graduation from the elementary schools? Do pupils who complete the seven years but do not complete the eight, earn as much, taking thousands of cases, as those who complete the eight? Compare the ages. It may be that there is no difference—it may be that there is a difference. It is important to know, if there is a difference, how much of a difference it is. If it should be discovered that children who graduate from the elementary schools earn enough more because of such graduation than the children who do not graduate, it would affect the whole question of parents' attitude toward children entering the elementary school courses. That is an answerable question, but it is a more difficult one to answer because it means keeping track of the children after graduation.

Do you have any schools so crowded that some of your children have part time? Do children who are on part time go slower than children who are on full time? I wrote to one of the most distinguished school superintendents of the United States eleven years ago to ask him that question. I was then interested in an experiment that had been carried on in England with backward children where they went to school half the day and to the factory the other half, and it would appear from the limited number of cases the children going in that way were just as fast as the children who went all the day. The superintendent in reply to my question said, "Of course, they go slower. It is obvious that a child who gets three and a half hours of instruction goes slower than a child who gets five hours instruction. It is one of the useless questions that scientific men are constantly propounding which have no relation to the practical conduct of affairs." But it appears that there is very little difference in the progress between children who are on part time and children who are on full time. If there is a difference, it is important. We ought to know the facts on a large scale. I have much more to say on that, but it is dangerous; and I don't know of anything that is more foolish in dealing with statistical matters than to publish results before you are sure of them. It makes a sensation, and it is humiliating to say, "I have discovered certain things," and later be compelled to change your statement.

How much does bad lighting increase eye diseases and eye defects? That can be measured. I know of a school building in which the records show that 62 per cent. of the graduates of that school have enough eye defects to be compelled to wear glasses; whereas only 31 per cent. of the rest of the children of that community at the same graduation are compelled to wear glasses. In that peculiar building, on most of the days of the year they are compelled to use gas. What is the cash value of good vision? Does it pay to have that building, or doesn't it pay to economize and keep the old building? I mean on the mere financial side? It is a question that can be answered, because it can be measured.

How much does the removal of dust from the class-rooms affect promotions? We know that it is a very rare class-room in which the children can stand up and run without raising a cloud of dust. After running about for two or three minutes they leave enough dust on the desks so that you can make a mark with your fingers. With all our recent methods of cleaning, that is almost inevitably the case in the old buildings in which the floors have worked down. How much does that interfere? How much more cold do children have who are exposed in class-rooms where there is dust of that kind—I don't mean dirty class-rooms, I mean class-rooms that are clean—how many more colds do they have? How much does that keep them out of the class-room? How much does that interfere with their promotion, and make them have to repeat another year? That can be answered in terms of per cent. and in dollars and cents. That is a concrete, definite problem. What is the cash value of the vacuum cleaner system? My own conviction is—this is an opinion, not a fact—that the time will come pretty soon when we will discover that it is cheaper to keep the building as clean as a hospital, and that the reasons for keeping the school room as clean as a hospital are exactly the same as for keeping a hospital clean: That children will go to school without as much loss from preventable colds, with less irritation promoting tonsilitis, the growth of adenoids, enough to more than pay for the removal of the dust. Now, if that is so, we ought to know it, and if it isn't so we ought to know it.

How much does the school room temperature affect the study? We know ourselves that in a temperature above eighty we become so restless that it is almost impossible to concentrate our minds. We know that at a temperature below sixty, unless we are specially dressed for it, we become restless. We have practically no records between these figures; but the cotton mills have the

matter worked out pretty thoroughly. They keep the temperature at the point at which they get the most work out of the operatives and that is what we want for the school children. We want every school child to be in the condition of mind where it can just be its best; that is, can profit by the instruction that the teacher is pouring out at the cost of so many million dollars a year; and it is just as much worth while to do it in education as it is in the cotton industry, and just as adaptable.

Do school athletics affect truancy? If so, how much do they affect it? That is one of the things that can be found out. It is a matter of record. Do play grounds well administered decrease juvenile crime? If so, how much? How much does that juvenile crime cost, and is that cost as much as running the playgrounds? Those questions can be answered. I don't mean that it is the only value of a playground. I think playgrounds have a wide educational value.

Is salary any measure of efficiency? For example, I don't know how this would work out at all, but the only way one could find out would be by trying to see whether we can get a common sense answer. Do schools that pay $1,000 for teachers in the upper grades graduate more pupils than those which pay $800? If so, how much greater percentage do the $1,000 teachers graduate than the $800 teachers? That is the same question that the business man is asking about his business. A modern business that could stop a leak of 16 per cent. by attending to the general health of the operatives, would stop that very quickly.

I don't know how this would work out either. It is very interesting to me. Is there such a thing as the best number in a class, a number which is better than other numbers—I mean by that, taking a great many hundreds of classes into consideration, so that any peculiarities of special teachers would be lost. Do teachers who have sixty children promote as many as those who have fifty or forty or thirty? That is, divide the number of promotions into the cost and find out what is the expense. We assume sometimes that the more pupils we can get under the instruction of one teacher the more we are saving money. Perhaps we are not. I don't know how that would come out at all. There are other facts to be considered, the health of the teacher and the health conditions in the class-room. There is a number that is cheapest to have for each grade and if we could show it was cheaper to have forty-five than sixty, that would go a long way.

Let me mention two or three other things that are now being done. A year ago there were only two cities in America that mentioned in their school reports the number of children entering school in the first grade for the first time. There are already this year twenty cities which are recording that fundamental fact. That is, they have never recorded the amount of raw material that came into the schools per year, which is a basic fact in all scientific reckoning of children. Prof. Thorndyke assumed that the average number of children in the first, second and third grades would tell the number of children that enter the first grade, but they don't. So many children fail in the first grade, and repeat it, or they enter school so young that they ought to repeat it, that the first grade stands far higher than the others and the result is, in some cities, that there are twice as many children in the first grade as in any year in any one school.

The United States Board of Education is conducting an extensive definite inquiry of a scientific character with reference to our schools. They are getting definite, statistical, measurable facts. The United States Immigration Commission is conducting the most extensive investigation ever made with reference to schools, as to what rate of progress and rate of assimilation the foreign child makes in coming into the schools; and I venture to state that if I should ask for a show of hands in this room there wouldn't be one or two, but twelve or fifteen who would raise their hands and say, "Yes, I have a definite, concrete, measurable problem upon which I am working and getting an answer out of my own schools."

The man who is credited with having done a great deal of this work at first hand is Dr. Reist, in spelling. He went around in many cities to answer this question, "Do children who study spelling twenty minutes a day learn to spell any better than those who study spelling ten minutes a day?" That is an answerable question. What is the optimum amount of time to give to spelling? At what point do children spell the best? We assume that the child who studies spelling the longest would spell the best, but he shows that it is not so. He has turned his fertile mind in another direction. He is now professionally engaged in seeking similar answers to certain other questions. For example, he was making an investigation to increase the efficiency of certain commercial processes in which men had to shovel malt down shutes by hand. He discovered by measuring that men shoveling alone did so much work per day or per hour on the average. He discovered that two men working together would do a little more than twice as much

as the one man, and so far as he could get at it, it seemed to be that the one man was so lonely that he didn't work so well, and the two men working in company worked better; and when he got three together, one didn't do as much per hour per man as one man did working alone. The three men talked so much. There were certain unknown facts in the case which prevented them from being as efficient in company. He settled that two was the optimum number for shoveling malt down a shute, to yield the greatest amount of return for the money invested, and he saved a steady small stream of money.

He discovered that the men who handled malt after it goes into storage work slowly because they work in the dark. Everybody says malt spoils unless it is kept in the dark, it is affected by the light. It is part of the traditions of the trade that have come down ever since they have used malt, apparently, that light spoils malt, and he couldn't get anybody to try. So he took some and kept it in the light and it didn't spoil. He then put lights into the malt rooms and greatly increased the output per man per hour.

He asked about certain refuse—I don't mean waste coal. He said, "Can't that be burned?" They said, "No. There isn't enough heat value in it to pay to burn it." But he wasn't satisfied. That was an opinion. He said, "Was it ever tested?" They said, "We know it is. Common sense would teach you that." But common sense didn't teach that man. He went and got the coal and burned it. Measuring the amount of heat it would give off per unit of light and discovered that it was worth burning, and revolutionized that part of the business. That is what we are doing in education. Just that kind of thing. Facts, not opinions. Finding out what things can be measured, finding a leak here and stopping it—a leak from adenoids, stopping it—finding out the leaks where they are and stopping them up.

This tendency toward science is world-wide and we are bound to meet with quantities of foolish statistical reports made by people who mean well, but who don't know how to do things. Hence, what kind of an attitude ought we all to take? My own conviction is that we shall welcome every man who comes out with the report of facts, but we shall challenge it. We shall say, "How do you know? Let us see your work. How many cases did you have? Were they selected cases? That is, go through it and examine critically—challenge, challenge everything, or we will be led astray.

I want to tell a story about the most foolish piece of work ever done. Prof. Clark says the most foolish work he ever saw done was by a man who went to an Illinois farm and added up the number of acres of land, the number of head of stock, the number of bushels of wheat produced and got an average. That figure told something about that man, but it didn't tell anything else.

Well, this work came out two years ago last September. A man took the records of 14,000 cases in one of our big cities, of children who had been found by medical inspection to have physical defects. He picked out all those cases, put them in a class and studied them, found out how many eye defects, how many ear defects, teeth defects, etc.; then he said, "Now, if all the children in the city show the same percentage of defects as do those 14,000 children that have been selected all over the city, that shows that 82 per cent. of all the children in the city schools have physical defects; and if our city it a fair index of all the children in the United States, the number of defectives in the schools of this country would be appalling." This statement was published broadcast through the country and it caused great excitement. It was foolish statistical work. If we can get facts, real facts, and facts that tell how better to administer our schools, then we will be doing something for science in education.

MEETING OF STATE ASSOCIATION.

Supt. Downes spoke for a few moments. He said: "I would like to get the members of this Department interested in coming to Harrisburg in 1911. We want the State Association back to Harrisburg. The Convention has not been here since 1885, and the last three or four years I have personally been trying to get before the summer meeting, but have always given way to the other fellow. Now, gentlemen, we feel it is our turn to come here. We know the Department meetings have been held here regularly every year, yet they haven't come here at our invitation. They have come here at your convenience and we have been very glad to have them come. We hope you will come here every year in the future. We are willing to take care of all the Conventions that come, but we are desirous of having the general meeting here and I want to say that, in order that we might have something in our favor, we have enrolled 190 teachers for the Erie meeting. We have enrolled them not entirely for Erie, but for some return which we hope you will be willing to give us. Our new technical high school we hope to have completed a year from now, and when com-

pleted we can house this whole convention. I believe there are hundreds of teachers in Pennsylvania who would come to Harrisburg rather than go to any other city in the State. They would come to Harrisburg from the fact that they have never been here or seen the capitol. There is no city in Pennsylvania that is so central. We had fifty-two conventions last year, a convention a week. Why? Because it is convenient to the people. I hold this out as an opener, and hope you will bear in mind that it is our turn.

Dr. Oliver P. Cornman, Associate Superintendent, Philadelphia, followed upon "Backward Children Investigation in the Philadelphia Public Schools."

BACKWARD CHILDREN IN PHILADELPHIA.

Dr. Gulick has shown clearly that the backward child is an important factor in education, the backward child over age for grade. It is important not only in having secured recognition for itself, but in having stimulated general scientific investigation along educational lines. I have to report this afternoon on the other backward child. Dr. Gulick said he would not concern himself with the one or two per cent., the subnormal child, the child that is different from the so-called average child of our public schools.

The first matter of interest in connection with such investigations is the comparative recency of its recognition by the public. The first public discussion of the matter of any importance, as I recall in Philadelphia, was one held only fourteen years ago under the auspices of the Educational Club, to which the supervisor of the special schools of Providence, Rhode Island, came—Providence having been very much ahead of the game in this kind of investigation. At that meeting this great nose and throat specialist brought to our attention the importance of adenoids on the physical and mental development of the child. Dr. Witmer spoke from the physical point of view and Dr. Taylor the preservation of the individual. The topics of that discussion are indicative of the trend things were taking, but it was also indicative of the curious state of both public and professional opinion at that time.

A quite important educator ventured to assert in the course of his remarks, that while other cities, not so fortunately situated as Philadelphia, might have such children, Philadelphia had no defective children to deal with. There was not a case there, and the matter as he put it occasioned a ripple of dissatisfaction. We have learned more since that time and know that the problem of the subnormal children is an important problem in any city school system, no matter how constituted.

The compulsory education laws have forced upon our attention this class of children by driving into the schools the pupil who otherwise never got there or who dropped out or was forced out when he became a menace to the rest of the class. The first attempt to enumerate the children in the Philadelphia system who would come in the designation of sub-normal, was made only a little more than ten years ago. The principals reported upon the number which in their judgment they had in their schools. The enumeration was crude, the terms employed were not skillful or at all definite, and the great variations in the reports as made from the several schools would indicate the lack of value in the general result, some of the principals reporting none at all, others reporting 20, 25 and 30 per cent. of their schools as coming within that denomination.

That was the only attempt to make a count until quite recently when last year the Bureau of Health of Philadelphia, acting in conjunction with the city superintendent, conducted a carefully mapped out census, endeavoring to enumerate the children of the sub-normal type. The terms were carefully defined and medical inspectors were enlisted to assist the principals in their work of classification. The district superintendents took the matter up with the principals and so the great variation of judgment along those lines was more or less controlled; at least the nature of variation was narrowed in its scope, and we had as a result a census of some significance.

I have arranged here on a chart some of the most general results of that census. I don't understand Dr. Gulick's delinquency in not having a whole series of charts. They seem to be absolutely necessary to give tone to discussions in these days. I have this very simple one. The numbers are so easy that it is hardly necessary to use the chart by way of demonstration.

As shown here on the edge of the chart, there were 731 sub-normal children from a school population of 10,000; nearly 10 per cent. It seems like a large percentage, 7 out of 100. A teacher deciding how a dull pupil should be classified, if he had no choice, might have turned him over into the lower classes. We had 4 out of the 7, leaving 3, from the other classification. These were defined in the circular of instructions—the dull class of pupils above those that would require special instruction, who of course would be benefited if they could have special teachers, but who might properly remain in the regular classes,

though considered as dull children. Two in a class of 50 does not seem like too large an estimate. Two in a 100 were the returns in round numbers of the backward pupils who would need special instructions in special classes. That agrees with an independent estimate made by Dr. Witmer, who has had a large experience in the study of backward children. As he states it, any school of 1,000 children in the elementary school grade will furnish 15 to 20 pupils of the type advisable for a special class. This return from the entire city, where 150,000 were considered, brings approximately the same result. Two in a 100, 20 in a 1,000. Enough in a large city school organization to establish a special class. These subdivide into a class of institution cases, those who are beyond the backward, below the improvable by class method, and who really should be placed in institutions. I don't know that we all realize that in every large school system there are some such children. From all the available sources of information, we have about one case of feeble-mindedness to every 500 of the general population. As the term of life of the feeble-minded child is short, the large proportion of them come within school age and they would tend to make the percentage larger. Whether this ratio is too large or too small, we have a number of cases of that kind outside our public school system, and they are in some ways the most serious we have to consider. There is even a doubt whether it is best to put them into special classes and have talented teachers bring them up a little, so that they can possibly take their place in the world.

But this sometimes means disaster. I have in mind a case of a boy of fourteen in a special school who evidently was hopelessly feeble-minded, but by the kind of teaching I have described, talented, tactful teachers, special methods, one step at a time, day by day, slow persistence and patience, that fellow got along so that he could help around a little. He could put the tools away, he couldn't always get two and two to make four, but he could make himself a little bit useful. His father, who was a saloon keeper, discovered that and used him in his place. He could clear away the glasses. At sixteen years of age he graduated, and it was only recently that he was married and the happy father, I presume, of a feeble-minded child—none so feeble-minded that they cannot achieve matrimony! Fools rush in where angels fear to wed, and that is the danger of this type of cases. This is the type that should be given permanent custody. This is the kind for which we have the most inadequate accommodation. All the existing institutions, mostly maintained by private enterprises, sometimes helped out by appropriations of the state, are all over-crowded. There is a long waiting-list, and unless there is plenty of money to secure entrance, it is as difficult to get into Elwyn or Vineland as it is to get into the Union League. It is true the qualifications are different, but the institution is over-crowded, and it seems to me that we will have to face the problem some time in the future. The feeble-minded type, the institutional cases, are the kind that is unimprovable; that is, unimprovable to the extent that they can take their place in the world. They may within the walls of an institution be made more or less self-directing, as happy as possible, and partially or even wholly self-supporting. We have those matters computed at some of these institutions in a way that would do Dr. Gulick's heart good. They do make them happy there, and they should be permanently sequestered there so that they will not drift into dissolute and vicious lives, as they will inevitably do; so that they will not by marriage and the rearing of a large progeny just multiply the problem we have before us; and that will require not only the provision of institutions for them but legislative enactment so that they can be put in by process of law, committed to these institutions as a safeguard to society as well as a benefit to themselves, committed of course with due legal restrictions and proper medical supervision.

The special class cases may serve as proving ground to treat the border line cases; and we find, no matter how carefully these cases are diagnosed, that the only safe diagnosis is the diagnosis of time, long-continued observation under careful school conditions. The special school class, as we have established it in Philadelphia, has performed just that function.

A couple of other classes provided for in the scheme of classification were the chronic truancy and the migratory truancy, so-called incorrigible. They were subdivided as those of nomads and those of fair mentality; those of apparently normal brain, but who are very troublesome and have to be put into a special school, and those of low mentality. We have both of these in the special schools and the regular classes in the schools—one in a hundred.

Curiously enough another count has been made recently of the age and grade distribution of the children, which shows that 95 per cent. of the children in the classes of our system are over age for grade. That is accounted for by this class of low mentality, partly by the backwardness occasioned by chronic truancy and being unable to take advantage of school conditions.

The children in the backward classes have only 91 per cent., so that the disciplinary classes have a larger number of over age for grade than the backward classes. This would seem to indicate that here are grouped a number who are rated as disciplinary cases, not because they are essentially backward, but because of their low mentality; and it would show a need for more special classes in the public school system. Philadelphia has in the last ten years organized a small system of ten special schools and a few special classes in regular schools, and now has accommodation in all for 1,000 pupils, but this seems inadequate to meet the demand.

It may be said that this is an average of opinion, simply a careful guess; but it is better than no account at all. In order to secure data upon the subject the Superintendent has appointed, by authority of the Board of Education, a special committee to make further investigation of the backward pupils within the public school system. The committee has been at work for several months. I have to report upon its work, and I regret that I am not yet able to report results—only method and work in progress. The method may be of some value in the way of suggestion—perhaps suggestive of what not to do as well as what we may do. Our first step was to send to the school principals a blank form which listed certain data. From the list so filled out, with the aid of the data in regard to each individual, we were able to make a selection of what seemed the most serious cases. The principals were then furnished with a blank form of record for the individual child, calling for the child's name and its personal history so far as possible, filled out by the teacher, and returned to the committee. Some of the data cannot readily be secured in the school, and we have enlisted the assistance of a number of part-time teachers. The city is entitled to five hours of their time and if they teach only three, they can devote the other two hours to this work. Some have volunteered to do this, and have become much interested, so that we have a fine corps of young women now on duty.

The blank as sent back to us is then transcribed, for the purposes of mechanical convenience, on the face of the index card, so that we have an individual record of this child, and on the reverse side a blank which the committee uses in making its individual examinations. In making tests we have certain simple ones not dependent upon progress in school work, as recognition of objects, matching colors, naming objects, common information about their age and the number of their brothers and sisters. Children of the sub-normal type do not always know these things, but children of the normal type always know them. We have simple tests of recognition of coins, interpretation of pictures and so on, and from the data on the face of the card and the data we secure from individual examination of the child, we venture a diagnosis of the case as to whether the child is only dull or feeble-minded. We then make recommendations as to what shall be done in the individual case. The work is very slow. Dr. Cornell is out every day visiting schools and one member of the committee always goes with him, so that two always pass on each individual case. It is a slow process, and we get only fifteen or twenty cases recorded in a week, so that our work is not progressing as rapidly as we could wish.

We are now thinking of training a corps of these part-time teachers to take up the work of testing these pupils along somewhat definite lines. They have evolved in France a series of tests for noting on a certain scale the mentality of children that seem to surpass anything we have as yet tried. It is called the Binet test, and they are arranged by years from three to thirteen years of age. They are not dependent on school conditions or training, but the kind of knowledge the child is supposed to have picked up that has been living in modern civilization. The difficulty from the American point of view is that our civilization is somewhat different from the French, and some of the things that are not taught there or do not enter into child life in France, are taught or do enter into child life on this side of the Atlantic. We are not always conscious of these things ourselves, hence it is not possible, off-hand, to say which tests must be changed to adapt them to our conditions. The only solution is to try them out with normal children and discover what changes are needed. Dr. Goddard, of the Vineland Institution, is now using these tests and he says that the result of his work at the institution of Vineland is very satisfactory. One great advantage of the Binet test is that they simply state the bare fact that John Smith, who was twelve years of age, passed a nine-year-old test. Binet, who has worked out with 5,000 normal children and an equal number of sub-normal children, states that a child three years behind in tests is considered among the feeble-minded group. A description of these tests can be had from Dr. Goddard, at Vineland.

We hope to accumulate in the course of our investigations, which we will report upon at the end of the year, a sufficient amount of evidence to convince the public

and professional minds that more adequate provision is needed for these special classes of children. You know when the public purse is drawn upon in so many directions and the school is solicited for from so many sides, it is very hard to get a hearing for something new. The story of the daughter of the impecunious clergyman who was informed that she had another baby brother, there already being nine in the family, is rather significant. She remarked, "Well, Papa, I suppose it is all right, but there is lots of other things we needed more." That is the reply we get when we ask for appropriations for special classes in schools —the manual training, the part-time children and other things.

Accumulated evidence counts, and we hope that the mere presentation of 500 or 1,000 clinical reports of this kind will be convincing. It seems rather appropriate to have Philadelphia take up the problem of the backward children. It has the reputation of being slow.

Supt. F. E. Downes, chairman, made the following report from the Committee on Resolutions:

RESOLUTIONS.

The Committee on Resolutions begs to submit the following declaration for your consideration:

1. The thanks of the members are hereby tendered to the president and officers for their preparation of one of the most interesting and instructive programs ever presented in the history of the Department of City and Borough Superintendents; to the speakers for their willing response to the invitation to prepare papers for the meeting, and for their helpful contributions; to Superintendent Samuel B. Rambo and the Board of Commissioners of the Public Grounds and Buildings for providing convenient accommodations for the Department; and to all others specially contributing to the success of the convention.

2. We again express our confidence in the ability and administration of our distinguished Superintendent of Public Instruction, Dr. Nathan C. Schaeffer, and renew our pledges of support of and cooperation with the Department of Public Instruction in its endeavors to improve, enrich and intensify the work of education in the state. We are glad to record also our appreciation of the work accomplished by the High School Inspectors in raising the standard of the high schools of the state and placing them on a plane never before attained.

3. It is our judgment that, should a school code be submitted to the next legislature, the same should be printed for distribution to the public and the school people of the state, for their perusal and consideration, at least ninety days prior to the convening of that body.

4. We especially recommend legislation at the session of the legislature in 1911 on the following subjects: Length of term of school directors, length of term of superintendents of schools, length of school term, medical inspection in schools, school census, playgrounds, fixing school holidays, and closer supervision of schools. We also recommend that individual bills be introduced upon these subjects and other necessary legislation, lest the entire code fail in the next legislature, as it did in the last, with the result that no new school legislation will be enacted in the state in 1911.

5. New legislation being made necessary, by reason of recent Amendments to the State Constitution, affecting the term of office of school directors, we record our belief that, whatever enactments may be made upon this subject, the term of office of city and borough superintendents should be made to conform therewith.

6. We endorse the efforts of our Health Commissioner, Dr. Samuel Dixon, to inaugurate a system of medical inspection throughout the public schools of Pennsylvania. We believe that the state should assume the duty of fitting the child physically to do the work which existing laws require of it during the school period, and of enabling it to perform acceptably and efficiently the duties of citizenship.

7. We record our gratification over the changes in the laws bearing upon child-labor in Pennsylvania. The placing of the issuance of labor certificates in the hands of the school authorities has resulted in the return to school of hundreds of illiterate and under-aged pupils who were illegally employed under the old law. Our brief experience under the new laws has fully demonstrated the wisdom of their enactment. It is our judgment that these laws should be literally enforced.

8. Industrial education has come to stay. We realize its value as a factor in the development of efficient citizenship. We believe this form of education should be made the subject of special and intensive study by all school men, in order that proper selections may be made and proper balances maintained. While we believe that the best things in the new education should, as a matter of course, be accepted, great care should be exercised against the loss of too much of the best of the old.

Signed: F. E. Downes, Jas. L. Allison, Joseph Howerth, Committee.

Supt. Shenk: I would make a motion to accept these resolutions and in making the motion want to make a statement or two.

I have attended these meetings for five years, ever since I have been in the State of Pennsylvania, and I feel sure that all of you will agree with me that no meeting has been so delightful as the one which is just now closing, and I want to take this opportunity to express my hearty appreciation of what our chairman, who has presided so ably, has done for us in preparing this programme.

OFFICERS FOR NEXT YEAR.

Supt. C. J. Scott, chairman of the Committee on Nominations reported as follows:

For President, Supt. S. H. Hadley, Sharon.

For First Vice-President, Supt. J. L. Allison, Wilkinsburg.

For Second Vice-President, Supt. J. N. Muir, Johnstown.

For Third Vice-President, Supt. A. Warner, York.

For Secretary, Supt. H. J. Wightman, Lower Merion Township.

For Treasurer, Supt. Thos. Bock, Spring City.

For Executive Committee, Supt. Grant Norris, Braddock; Supt. Robt. E. Laramy, Phœnixville, and Supt. W. A. Wilson, Milton.

Signed: C. J. Scott, C. S. Foos, Samuel Andrews, Committee.

On motion, the report was adopted as read.

Supt. Hadley: I desire to thank the members of the Department for the honor you have conferred upon me, and I heartily solicit your entire co-operation in the work of the next year. I firmly believe it needs the co-operation of everybody. I feel myself that Supt. Norris has set so high a standard at this meeting that it will be wellnigh impossible to come up to it for the succeeding year. But if you will help us, we trust we may have a meeting of general interest and enjoyment to all.

President Norris: I find a resolution that was adopted at your last meeting reading as follows:

"That the president of this association appoint a committee of three of its members to investigate the conditions under which vocational schools are now maintained in connection with the public school system; originate plans by which the work of the schools in Pennsylvania can be correlated with the farm, the trades, the kitchen, the shop and the mill, and that the results of the deliberations of the committee be submitted to this association at its next annual meeting; and that this department petition the Pennsylvania Educational Association for an appropriation of One Hundred Dollars, or so much thereof, as may be needed to defray the expenses of the Committee for correspondence, printing and the attendance at one meeting to formulate its report."

I tried to get some action on that resolution, but did not succeed. It seems as if, in some way or another, it was not recognized at the State meeting sufficiently, at least, to make it operative with those who had it in hand, and in consequence of that, it did not appear on the programme, and I shall ask ex-President Robbins of this association to make a statement.

Supt. Robbins: Last year at the meeting of the Department Supt. Jones, of West Chester, offered that resolution, as I remember, and I appointed a committee of three persons, with Supt. Jones as chairman, Supt. McGinnis and a principal of Pittsburgh. The committee was instructed to go on with the work. Supt. Jones met me at Bethlehem and wanted some change made, I have forgotten just now what it was, but as I understand the committee did nothing whatever. I imagine they were waiting for the programme which never came. I make a motion at this time that a new committee be appointed, that some steps be taken to secure this appropriation and that the work of the committee be done during the present year, so as to be reported at the next meeting.

The motion was seconded.

Supt. Foos: I think no active steps were taken at the State Convention. I was the presiding officer and I don't remember of it.

President: I believe it was through correspondence.

Supt. McGinnis: I learned at the Bethlehem meeting that such committee had been appointed. Inasmuch as it included work in agriculture, it seemed to concern the county superintendents as much as the city superintendents and in holding a meeting of that committee at Bethlehem, we thought there should be some recommendation from the general association and the county superintendents should be represented. Both Supt. Jones and myself had to leave the general meeting before its conclusion at Bethlehem and so the matter was left over and no action taken. The committee thought it would be wise that any action of that kind should be a little broader than this convention of city superintendents and we thought perhaps some recommendation from the State Association at large would be necessary in order to carry it out effectively. I would like to ask Mr. Robbins if it is his idea to include the city superintendents only?

Supt. Robbins: Yes. Just to include city superintendents.

The resolution was adopted as read.

ERIE MEETING OF STATE ASSOCIATION.

Supt. Foos: I have been requested to urge the Superintendents to look toward

Erie. Erie is a part of Pennsylvania at times, as you know. By hook or crook that corner was put in and we are glad it was, because of our friend, Missimer, who lives there. We sent him up there from Berks County to get rid of him, but I know you will all enjoy being in Erie and we want you to urge the teachers, *your* teachers, to come to that city. Now, gentlemen, it is not necessary for me to emphasize this. You know what the Pennsylvania State Educational Association is. Let us get together and have an association that stands for something, for some definite purpose. I am chairman of the committee on the new constitution and by-laws. We are going to consider some important changes in regard to our association. Several problems will come up before us and we want your hearty co-operation. If you have any suggestions about this new constitution and by-laws send them in, but come to Erie. We may not all agree that it is the best place in the state, but we all agree that we have the greatest man in Pennsylvania there.

Supt. Missimer: It seems incumbent upon me to say a little something about this. Come up there by all means. You know Erie is annexed to the State of Pennsylvania. It is a very valuable part of the state. The tonnage that comes into Erie exceeds that that goes out of the port of the City of Philadelphia. And bear in mind that it is in the same place as it was last year and that we have made a distinct improvement, a great natural improvement. Instead of taking our water now from the bay, we have gone out into the lake about a mile and we've got the finest system and the best water up there of any place in the state. That is true. You can come up there and drink it. There are other facilities also for your entertainment in the line of refreshments; but I have nothing to say about this. Erie is on the very backbone of America. It is right along that ridge, where the water on one side of Erie goes north and the water on the other side of Erie goes south, and consequently, if you have never been upon the backbone of the ridge, you had better come up there. We are going to have all the arrangements made beforehand. I have already performed one part of the programme; that is, so far as I am at liberty in the matter—I believe the preliminary arrangements are in charge of a committee who have arranged for the speech of welcome, but I have made provision that a splendid prayer be made for you when you come. We are also going to have a steamboat come in and give you a ride upon the lake some afternoon, and various other entertainments. On your way back you can go to Buffalo, Niagara Falls, take a trip through the lakes or go home.

Supt. Buehrle: I would like to offer a resolution or a motion that a committee be appointed to report to this body a year hence on the waste of mind and time resulting or growing out of our system of orthography.

Supt. Coughlin seconded the motion, which was not approved by the convention.

Supt. Coughlin: I want to say that I think I will go up to Erie, since there is such ample provisions made in the way of water and prayer.

President Norris: I wish to state that at Bethlehem last year we had an address by the president of the State Educational Association, which occasioned great interest. It has been put in print and it can be had by applying for it. I believe it was stated in that paper that not more than 2 per cent. of the teachers of Pennsylvania are enrolled as members of the State Educational Association. I think that we as superintendents have not been loyal in every way in supporting our State Educational Association. We ought to be more so and I hope that the time will come when each city, borough and county superintendent will appoint himself, at least, as a committee of one to enroll his own teachers and try to interest them in attending these meetings. I have 70 per cent. enrolled now, had 80 per cent. last year. We should have more than 2 per cent of the teachers of the Commonwealth enrolled in our State Educational Association.

Supt. Muir: I had not expected to make any announcement at this meeting, but since Supt. Downes has served notice on this convention that he wishes the State Educational Association to meet here in Harrisburg, I do wish to state in the presence of our friend, Mr. Downes, that if I am spared to go to the State Educational Association held at Erie next summer, I will give that body an invitation to come to Johnstown. The first reason being that the meeting of the State Educational Association has never been held there; the second, that it is a very nice place, and the third, that you can come to Harrisburg when you can't go anywhere else.

President: I want to thank you all for the effort you have made to render this meeting, what we believe it has been—a success. It has not been a record-breaker, but the meeting should be a record-maker.

The convention was then declared adjourned.

MEMBERS IN ATTENDANCE.

The following is the list of members in attendance, as received from the treasurer:

H. H. Baish, Altoona; W. A. Kelly, Archbald; H. J. Weightman, Ardmore; George E. Rogers, Athens; J. M. Gruver, Bangor; F. W. Robbins, Bethlehem; Owen R. Wilt, S. Bethlehem; H. Espey Albig, Bellevue; Grant Norris, Braddock; J. L. Spitler, Braddock; E. E. Schermerhorn, Bradford; John A. Gibson, Butler; Thomas L. Gilmarton, Carbondale; John C. Wagner, Carlisle; James G. Peutz, Charleroi; John J. Lecke, Cheltenham; Thomas S. Cole, Chester; E. H. Knoch, Clairton; L. F. Benchoff, Clearfield; D. N. Diffenbacher, Danville; J. H. Alleman, DuBois; C. F. Hoban, Dunmore; C. E. Plasterer, Emporium; H. C. Missimer, Erie; W. W. Irwin, Ford City; N. P. Kinsley, Franklin; G. B. Gerberich, Greenville; Thomas S. March, Greensburg; C. B. Smathers, Grove City; J. C. Carey, Hanover; F. E. Downes, L. C. Shimmell, J. J. Breslin, Robert D. Meck, and George B. Colestock, Harrisburg; David A. Harman, Hazleton; James M. Norris, Homestead; Thomas B. Shaub, Jeannette; Wilmer K. Groff, Jenkintown; James N. Muir, Johnstown; M. A. Milliron and F. W. Goodwin, Kittanning; R. K. Buehrle, Lancaster; Edgar Reed, Lebanon; Wm. F. Kennedy, Lewistown; Edw. L. Ling, Lock Haven; R. H. Bellows, Meadville; H. J. Wickey, Middletown; W. A. Wilson and Edw. Weidenhauer, Milton; S. H. Dean, Mt. Carmel; Howard E. Shriner, Nazereth; Clyde C. Green, New Brighton; W. S. Martin, Norristown; J. J. Palmer, Oil City; Fred L. Bach, Parnassus; R. E. Laramy, Phœnixville; A. D. Yocum, A. J. Pfoff and Fred S. Hull, Philadelphia; Samuel Andrews, J. M. Berkey, Harry M. Shafer, W. A. Wilson, C. G. Cleaver and John W. Anthony, Pittsburg; C. A. Judge, Pittston; Charles S. Foos, Reading; Joseph Howerth, Shamokin; S. H. Hadley, Sharon; W. D. Landis, Siegfried; S. C. Yocum, Shamokin; Miles Holden, Springfield; J. J. Lynch, St. Mary's; L. E. McGinnes, Steelton; I. C. Ellenberger, Sunbury; Edw. Maguire, Swissvale; M. J. Lloyd, Taylor; A. D. Endsley, Tarentum; H. S. Fleck, Tyrone; C. J. Scott, Uniontown; R. T. Adams, Warren; James L. Allison, Wilkinsburg; Charles Lose, Williamsport; James M. Coughlin, Wilkes-Barre; A. Warner, York; Albert H. Watkins, Naples, N. Y.; L. P. Ayres and James H. O'Donnell, New York City.

EDITORIAL DEPARTMENT.

THE SCHOOL JOURNAL.

LANCASTER, MAY, 1910.

H. G. SCHAEFFER. - - - - J. P. McCASKEY.

SHALL we have a more sane observance of the Fourth of July? The statistics for the past seven years, as compiled by the Society for the Suppression of Noise in New York, made a showing of 1,513 deaths, 33,073 accidents, and a fire loss of about twenty millions. The first step in this campaign has been to request the Governors of the various States to give their aid in the movement and to ask them to compose a national committee with this end in view. The argument which the society makes is this: "The Fourth of July is a day of national rejoicing, but must it be for that reason a day of national death? It is a day for the children, and their pleasure should not be curtailed, true, but shall we not rather help them to enjoy it more fully and without danger rather than let thousands of them be blinded, maimed, or disfigured for life? It is a day of patriotism, why make it so much a day of destruction of life and property?" President Taft approves the effort in this direction as do the Governors so far as heard from. The plan of the Society includes letters to nearly 500 college presidents and other men of prominece. It includes also commissioners of health, fire chiefs, police commissioners, and insurance companies in all of the larger cities. The manufacturers of fireworks are in sympathy with the movement, for the more elaborate, and consequently more expensive fireworks are far less dangerous than the ordinary firecracker, and especially the giant cracker, on which the profit is comparatively small.

STATE SUPT. HYATT, of California, in discouraging the presentation upon the platform of gifts to graduates, says: "Admiration is easily given to the love and loyalty and pride in their offspring that leads people to reward them publicly on their graduation day by gifts of gold watches, handsome books, lovely baskets of flowers, rich necklaces, bracelets, and what not. The ceremony of presenting these things amid the plaudits of the admiring multitude is a pretty one, spectacular and altogether charming. But there is another side to it. It must not be forgotten that the public school is the rightful home of all the people; and that among the people must always be many who can not have gold watches on graduation day. It is torment to the feelings of a sensitive child who is publicly slighted before his mates—whose clothes are poorer, whose flowers are cheaper, whose gifts are conspicuous only by their absence. Those cuts are deep. They leave painful, poisoned wounds that are felt for fifty years and more. True, nothing of this shows out at the public

function, all so gay and joyous; but it is true, nevertheless. It is a cruel fact. It is to be regarded as a humane and patriotic thing for high school officials of this State to do all they can in the years of the future to obscure the pecuniary inequalities of their students, and especially to prevent these inequalities from showing forth to the assembled world at graduation time."

A CORRESPONDENT of the "Journal of Education" says: From the experiences of four years' teaching of agriculture in the Andover (Ohio) High School the author concludes that the work has increased the interest of pupils in other school subjects, led to practical farm experimenting by them, cultivated judgment, and developed moral principle. Near-by farmers are now underdraining and liming their land, treating seed potatoes for scab, improving dairy herds, pruning orchards, building good roads, and caring for farm machinery. "One cannot buy a secondhand agricultural book in Andover." They are kept for reference in the home library. These things will happen when, in the school, there is a teacher who can do things.

MR. L. F. CAMPBELL, secretary of the School Board of Martinsburg, renewing subscription, January 13, 1910, says: "We all like *The Journal* very much, as we always find something of value to the School Board."

THE SCHOOL CODE.

IT is admitted by everybody that the Pennsylvania school system needs additional legislation. How to bring this about amid the many conflicting views and interests, is the question.

The School Code which was submitted to the last legislature and which failed to become a law by reason of the contradictory amendments that were injected into it, makes it comparatively easy for any member of the House or the Senate to introduce a code at the next session. That at least one code may be in proper shape at the proper time, was motive enough to bring together three members of the late Educational Commission for the purpose of eliminating the contradictions and the features which caused determined opposition. It is proposed to print the result of their deliberations in the July number of *The School Journal*, or if this should be found impossible, to print the proposed new code in ample time for study and consideration at a number of the educational conventions which will be held prior to January, 1911. At the Erie meeting of the Pennsylvania State Educational Association the question of holding a meeting between next Christmas and New Year, will be discussed. Harrisburg proposes to invite the Association. No better arrangement could be devised to give the educators of the state an opportunity to discuss the changes which are proposed.

Care should be taken to eliminate all contradictions and to supply possible omissions in the Code that is to be introduced. It would be a source of infinite regret if a new code should give the children of the state a worse school system than they now have. Far better to have no legislation than to ruin what has proved comparatively efficient during three-quarters of a century. The question which every one should ask while studying the code is the following: "Will the proposed legislation give the children better schools than they now enjoy?" If this question must be answered in the negative, the code should be defeated. If the proposed code will give the state better educational facilities, it should be enacted into law, regardless of the wishes of superintendents, teachers, taxpayers, directors, publishers or any others who do business in connection with the runnning of the public schools.

One thing is certain: If the schools are to solve the problems which the public mind has referred to our teachers, the legislature must in some way provide more money for the schools. Like the children of Israel in the days of the Pharoah who expected them to make bricks without straw, the teachers have been expected to solve all the problems of our day without adequate means and reasonable compensation. The organization or the taxpayer that is unwilling to give the schools more money, should quit advocating progress and reform. We are all reformers in the sense that we desire legislation which will make some one else pay the taxes. But this type of reformer seldom accomplishes very much. Both the community and the Commonwealth should be more liberal toward the schools. The state should raise enough money to pay the teachers the minimum salary prescribed by law. The school district should raise by tax enough additional money to give every child a decent seat in a decent school building, as well as to provide teachers and educational facilities to fit that child for the earning of a livelihood and for the performance of all the duties of citizenship in a free republic. The best which any school code can accomplish is to make it possible for the people to have as good schools as public opinion demands.

SCHOOL PROBLEMS.

THE teacher welcomes assistance in the training of the young. Some organizations hope to do their work through the teachers and hence shie all kinds of problems and reform measures at the school. Teachers have been so successful at solving all kinds of educational problems that the constant reference of new problems to the schools may be accepted as a compliment by those who devote their lives to teaching. Nevertheless it should always be borne in mind that the school is onlv one of the factors in the education of the child. In other words, there are two kinds of edcuation—one being the kind which is called schooling and which the teachers may legitimately be expected to give, and the other being the kind of education which one must get out of school and beyond the school.

Most children leave school by the time they reach the age of fourteen years. The school does not get these children before the age of six. In the period of eight years the child cannot be expected to learn everything that any and every pupil may need in the subsequent duties of life. During this brief period the pupil cannot learn all it needs for earning a livelihood and for taking care of a home.

The National Congress of Mothers and Parent Associations has issued a declaration of principles which have the true ring in them. The declaration shows that the mothers are willing to aid the teachers in their work and it is but natural for them to expect that the school shall aid the mothers. It points out that there can be no civic or social or physical betterment except through intelligent, purposeful effort to raise the standards of home life, of marriage and its duties, of fatherhood and motherhood and of citizenship. The conservation of health and morals, the care of children, the opening of playgrounds, the protection of children from unsanitary surroundings and from labor detrimental to health and growth and provision for a needful amount of wholesome manual work in all the grades—these are among the important topics upon which the Congress has given an expression of its opinion.

Instruction in sex hygiene is also recommended. This is a topic deserving of consideration during the adolescent period. It cannot be given in a satisfactory way in the elementary grades. Unskilful instruction in this line may set the imagination on fire and do more harm than good. Knowledge does not always prevent crime. Ignorance and innocence are not incompatible up to the period of adolescence. A girl or a boy may know too much; and one pupil may spoil a score by the wrong type of information. Here is a field in which the Congress of Mothers can render most efficient help in the training of the young. It is to be said to the credit of the Mothers Congress that it has not stood for that interference with the legitimate work of the school which causes misery to superintendents and teachers. Its aim has been to make the home and the mother more helpful and efficient in the education of the child.

INDIANAPOLIS RESOLUTIONS.

THE largest meeting and one of the best the Department of Superintendence of the National Educational Association has yet known was held at Indianapolis. The enrollment was 1,375, six hundred of whom are superintendents of schools. The next meeting will be held at Mobile, which was chosen on second ballot, after an unusual preliminary canvas during the three days of the session, the manner and method of which can hardly be commended. Supt. W. M. Davidson, of Omaha, was elected president for next year, and Supt. A. P. Call, of Hartford, secretary. The following resolutions were adopted:

"That the increasing efficiency of the bureau of education is establishing faith in the importance of its function in the national life.

"That the department of superintendence is in full sympathy with the ultimate motives of those who have suggested to congress the establishment of a children's bureau; this body unquestionably believes that the work proposed for such a bureau is naturally part of the work of the bureau of education, and that any such division of responsibility would result in confusion and waste. The bureau of education must consider all conditions that affect the education of the children favorably or unfavorably, and such research should be intrusted to its experts with specialized training for such investigations, carefully selected and adequately paid.

"That the department, while heartily approving every agency that may be used to advance the educational interests of both state and nation, places itself on record as disapproving any appropriations made by either legislatures or congress for any institution which is not supported exclusively by public funds, and which is not subject to complete federal or state control and investigation.

"That because the statistics published in school reports are inadequate for the purpose of comparison, the president of this department appoint a committee of five to formulate and report at the next annual meeting of this department a system of sta-

tistics which can secure uniformity in reports on all points of common concern.

"That the problem of retardation in our schools demands our careful consideration. Superintendents should emphasze all means which will reduce the amount of retardation without sacrificing the efficiency of the work. Late entrance and irregularity of attendance are important causes of retardation which can be overcome to a great extent through more intelligent co-operation of the home. The poor adjustment of the elementary curriculum to the needs of many retarded pupils can be remedied in part by modifications in the course of study to suit it to the local problems, and each superintendent must attack this problem in the light of local conditions. There must be a clear recognition of the fact that the assignment of a child to a grade should depend upon his ability to profit by the new work rather than upon the specific knowledge already attained, or upon the failure measured by marks in grades of the preceding term. The superintendents should hold the principal responsible for the individual promotion of exceptionally bright pupils, that there may be no retardation of a pupil in a grade of work below his ability to carry successfully. The principal should understand that this care is one of his most important obligations and privileges.

"That May 18, the anniversary of the first Hague peace conference, be observed in the schools by setting aside a portion of the day for appropriate exercises in recognition of the endeavor of the nations to establish a higher moral idea in international relations.

"That we favor the encouragement of agricultural education by national and state assistance."

OFFICIAL DEPARTMENT.

DEPARTMENT OF PUBLIC INSTRUCTION.
HARRISBURG, May, 1910

THE following are the dates of the Normal School examinations and the names of the examiners for 1910. The examination at each school will begin at 9 o'clock.

West Chester, Monday, June 6, R. M McNeal, John F. Bigler, W. A. Kelly, R. K. Buehrle, F. H. Jarvis, J. H. Deen, H. T. Jones and Elmer E. Kuntz.

Lock Haven, Monday, June 13, R. B. Teitrick, E. O. Lyte, Daniel Fleisher, H. V. B. Garver, Frank Koehler, R. C. Shaw, Clyde C. Green and J. Kelso Green.

Edinboro, Monday, June 13, C. D. Koch, G. M. Philips, C. G. Lewellyn, W. S. Deffenbaugh, W. N. Ehrhart, W. E. Tobias, N. E. Heeter and E. B. Ziegler.

Kutztown, Wednesday, June 15, W. S. Hertzog, J. R. Flickinger, S. H. Hadley, J. H. Alleman, I. C. M. Ellenberger, L. E. Smith, J. H. Hoffman and Lucian Westbrook.

East Stroudsburg, Wednesday, June 15, R. M. McNeal, James E. Ament, E. R. Barclay, Alvin Rupp, H. J. Wightman, Eli M. Rapp, John W. Snoke and T. B. Shank.

Mansfield, Wednesday, June 15, C. D. Koch, J. G. Becht, Edward S. Schermerhorn, G. A. Stearns, J. J. Koehler, R. S. Penfield, James F. Wills and F. W. Robbins.

Bloomsburg, Monday, June 20, A. D. Glenn, A. C. Rothermel, C. S. Knapp, F. E. Downes, Livingston Seltzer, Charles P. Sweeney, James F. Chapman and J. L. Allison.

California, Monday, June 20, W. S. Hertzog, E. L. Kemp, C. W. Stine, George W. Moore, F. H. Powers, W. Lee Gilmore, James N. Muir and Frank S. Jackson.

Slippery Rock, Monday, June 20, Nathan C. Schaeffer, Andrew Thos. Smith, D. O. Etters, H. M. Roth, J. W. Sweeney, I. H. Russell, Thomas G. McCleary and R. H. Bellows.

Clarion, Monday, June 20, R. B. Teitrick, S. A. Martin, Ira N. McCloskey, C. F. Hoban, Mattie M. Collins, W. A. Patton, James M. Morris and Atreus Wanner.

Indiana, Wednesday, June 22, Nathan C. Schaeffer, H. B. Davis, W. W. Spigelmyer, H. H. Baish, B. C. Lamberson Burdette S. Bayle, W. F. Kennedy and Samuel Andrews.

Millersville, Thursday, June 23, A. D. Glenn, D. J. Waller, Jr., D. A. Kline, Grant Norris, L. E. McGinnes, Thomas S. Marsh, John C. Wagner and C. W. Derr.

Shippensburg, Thursday, June 23, R. B. Teitrick, A. S. Maltby, Joseph Howerth, T. S. Davis, G. B. Milnor, Dallas W. Armstrong, Victor E. P. Barkman and Addison L. Jones.

COLLEGE GRADUATE CERTIFICATES.

THE following named College graduates were granted State Teachers' Permanent Certificates during the year 1909:

1781. John Wm. Griffith, Nanticoke, Luzerne county, Colgate College, A.B., issued January 11, 1909.

1782. Alonzoa M. Hoagland, Volant, Lawrence county, Westminster College, Ph.B., issued January 11, 1909.

1783. Mary Hay, Meyersdale, Somerset county, The Woman's College, A.B., January 11, 1909.

1784. Lucille Van Gorder, New Castle, Lawrence county, Mount Holyoke College, A.B., January 13, 1909.

1785. Edward D. Phillips, Wilkes-Barre Luzerne county, Lafayette College, Ph.B., issued January 29, 1909.

1786. Carrie Sowash, New Kensington Westmoreland county, Allegheny College, A.B., issued January 29, 1909.

1787. George W. Gulder, Tamaqua, Schuylkill county, Pennsylvania College, A.B., issued January 29, 1909.

1788. Truman C. Cheeseman, Kittanning, Armstrong county, Grove City College, B.S., issued January 29, 1909.

1789. Harry Phythyon Ellsworth, Washington county, Westminster College, B.S., issued January 29, 1909.

1790. Lucy Boardman Moody, Beaver, Beaver county, Wellesley College, A.B., issued February 3, 1909.

1791. R. F. Fetterolf, Selins Grove, Snyder county, Pennsylvania College, A.B., issued February 26, 1909.

1792. Wallace W. Fetzer, Sunbury, Northumberland county, Bucknell University, Ph.B., issued March 1, 1909.

1793. C. F. Jacobs, York, York county, Pennsylvania College, A.B., issued March 1, 1909.

1794. Frank L. Orth, New Castle, Lawrence county, Indiana University, A.B., issued March 1, 1909.

1795. William Breitwieser, Bellevue, Allegheny county, Washington and Jefferson College, B.S., issued March 2, 1909.

1796. Gertrude L. Henry, Tamaqua, Schuylkill county, Maryland College for Women, B.S., issued March 11, 1909.

1797. Marie P. Spalding, Elder's Ridge, Indiana county, Grove City College, Ph.B., issued March 11, 1909.

1798. Grace Algar Thomas, Hollidaysburg, Blair county, Woman's College of Baltimore, A.B., issued March 11, 1909.

1799. David W. Phillips, Scranton, Lackawanna county, Lafayette College, A.B., issued March 23, 1909.

1800. Emma Mary Lietman, Allegheny, Allegheny county, Wellesley College, A.B., issued March 23, 1909.

1801. Charles H. Korms, Bradford, McKean county, Mt. Union College, B.S., issued April 7, 1909.

1802. W. E. Riedel Yoe, York county, Lebanon Valley College, A.B., issued April 9, 1909.

1803. Walter H. Bertin, Jersey Shore, Lycoming county, Bucknell University, A.B., issued April 9, 1909.

1804. Charles S. Kniss, New Berlin, Union county, Albright College, A.B., issued April 14, 1909.

1805. Frank M. Shelton, Pittsburg, Allegheny county, Mount Union College, B.S., issued April 14, 1909.

1806. Edward Sauvain, Pittsburg, Allegheny county, Wooster College, Ph.B., issued April 14, 1909.

1807. William A. Jones, Easton, Northampton county, Lafayette College, Ph.B., issued April 19, 1909.

1808. Anna Russ, Scranton, Lackawanna county, Smith College, A.B., issued April 19, 1909.

1809. Charles Leber, Scranton, Lackawanna county, Colgate College, A.B., issued April 19, 1909.

1810. Evan John Lewis, Scranton, Lackawanna county, Olivet College, A.B., issued April 19, 1909.

1811. Pauline M. Pitcher, Scranton, Lackawanna county, Wellesley College, A.B., issued April 19, 1909.

1812. Frank L. Yost, Milton, Northumberland county, Bucknell University, A.B., issued April 21, 1909.

1813. Jean Shaw Wilson, Pittsburg, Allegheny county, Smith College, A.B., issued April 21, 1909.

1814. Edward R. Hughes, Scranton, Lackawanna county, Lafayette College, Ph.B., issued April 27, 1909.

1815. Florence Neal, New Bedford, Lawrence county, Grove City College, Ph.B., issued April 27, 1909.

1816. Harry Claude Seiler, Milton, Northumberland county, Bucknell University, B.S., issued April 27, 1909.

1817. Jennie Frances Coulter, Grove City, Mercer county, Grove City College, Ph.B., issued April 27, 1909.

1818. Mary Porter, Boss, Allegheny, Allegheny county, Woman's College of Baltimore, A.B., April 27, 1909.

1819. Chas. Watt Erickson, Washington, Washington county, Washington and Jefferson College, B.S., April 30, 1909.

1820. Bessie Edna Kast, Pottstown, Montgomery county, Wellesley College, A.B., issued April 30, 1909.

1821. Henry Jones, Plymouth, Luzerne county, Bucknell University, Ph.B., issued April 30, 1909.

1822. Ralph Jacoby, New Cumberland, Cumberland county, Dickinson College, Ph.B., May, 3, 1909.

1823. Luther D. Showalter, Pottstown, Montgomery county, Lehigh University, issued May 6, 1909.

1824. Eva Eleanor Clark, Edinburg, Lawrence county, Westminster College, A. B., issued May 6, 1909.

1825. Robert O. Klotz, Lansford, Carbon county, Lafayette College, Ph.B., issued May 11, 1909.

1826. Harry W. Bixler, Braddock, Allegheny county, Washington and Jefferson College, A.B., May 11, 1909.

1827. Amy Elizabeth Reno, Sharon, Mercer county, Woman's College of Baltimore, A.B., May 11, 1909.

1828. Stacy E. Peters, East Downington, Chester county, Pennsylvania College, A.B., May 11, 1909.

1829. U. J. Daugherty, Dallastown, York county, Lebanon Valley College, A.B., issued May 11, 1909.

1830. Frank T. McClure, Allegheny, Allegheny county, Allegheny College, A.B., May 11, 1909.

1831. Jean B. Butler, New Castle, Lawrence county, Geneva College, B.S., May 11, 1909.

1832. Jessie C. Bowers, Harrisburg, Dauphin county, Dickinson College, A.B., issued May 11, 1909.

1833. Sarah Ellen Stuff, Mercersburg, Franklin county, Irving College, B.S., issued May 17, 1909.

1834. Rosetta S. Montgomery, Muncy, Lycoming county, Mount Holyoke College, A.B., issued May 17, 1909.

1835. Bertha Taylor, Cresson, Cambria county, Wilson College, A.B., May 17, 1909.

1836. Nellie M. Allen, Media, Delaware county, Woman's College, Baltimore, A.B., issued May 17, 1909.

1837. Harold R. Balentine, Scranton, Lackawanna county, University of Pennsylvania, B.S., issued May 17, 1909.

1838. Carolyn J. Paterson, Scranton, Lackawanna county, Syracuse University, A.B., issued May 17, 1909.

1839. Leona Gregory, Scranton, Lackawanna county, Maryland College, B.S., issued May 17, 1909.

1840. Helen Campbell Myers, Pottstown, Montgomery county, Irving College, A.B., issued May 26, 1909.

1841. Robert F. Reed, Freemansburg, Northampton county, Franklin and Marshall College, A.B., issued May 27, 1909.

1842. M. Lila Long, Williamsport, Lycoming county, Bucknell University, A.B., issued May 27, 1909.

1843. Grace Graham, Mercer, Mercer county, Westminster College, A. B., issued May 27, 1909.

1844. Alice J. Butler, Wattsburg, Erie county, Bucknell University, Ph.B., issued May 27, 1909.

1845. Harry G. Unangst, Transfer, Mercer county, Grove City College, A.B., issued May 27, 1909.

1846. B. H. Houseworth, Selinsgrove, Snyder

county, Susquehanna University, B.S., issued May 27, 1909.

1847. Norman A. Yeany, New Mayville, Clarion county, Pennsylvania College, A.B., May 27, 1909.

1848. Nelle G. Wilson, Union City, Erie county, Allegheny College, A.B., issued June 2, 1909.

1849. Ruth Thomas, Union City, Erie county, Allegheny College, A.B., issued June 2, 1909.

1850. Calvina F. Riddle, Media, Delaware county, Wilson College, A.B., issued June 3, 1909.

1851. Louis F. Hawkens, McClellandtown, Fayette county, Washington and Jefferson College, A.B., issued June 4, 1909.

1852. Harvey W. Logan, Butler, R. D. 7, Butler county, Grove City College, Ph.B., issued June 4, 1909.

1853. H. O. Dietrick, Kutztown, Berks county, Bucknell University, A.B., issued June 4, 1909.

1854. Margaret M. Washabaugh, Grove City, Mercer county, Grove City College, A.B., issued June 8, 1909.

1855. A Lee Shulenberger, York, York county, Franklin and Marshall College, A.B., issued June 8, 1909.

1856. Harry J. Stump, Jeannette, Westmoreland county, Pennsylvania State College, B.S., issued June 8, 1909.

1857. Lydia Grace Shafer, South Sharon, Mercer county, Park College, A.B., issued June 8, 1909.

1858. Caroline Blanche Rubright, Williamsport, Lycoming county, Ohio Wesleyan College, A.B., June 8, 1909.

1859. Daisy Campbell, Grove City, Mercer county, Grove City College, Ph.B., issued June 8, 1909.

1860. Harry G. Cramer, Johnstown, Cambria county, Dickinson College, Ph.B., issued June 8, 1909.

1861. Helen Wagner, Hazleton, Luzerne county, Pennsylvania College, A.B., issued June 19, 1909.

1862. Esther S. Bradley, Pittsburg, Allegheny county, Muskingum College, B.S., issued June 19, 1909.

1863. Maude A. Blair, Erie, Erie county, Allegheny College, A.B., issued June 19, 1909.

1864. Charles G. Dotter, Annville, Lebanon county, Lebanon Valley College, A.B., issued June 19, 1909.

1865. Bessie Henderson, Bellevue, Allegheny county, Westminster College, A.B., issued June 19, 1909.

1866. Sylvia Ernestine Ball, Warren, Warren county, Cornell University, A.B., issued June 19, 1909.

1867. T. Latimer Brooks, Carlisle, Cumberland county, Dickinson College, A.B., issued June 19, 1909.

1868. Estella Albright, Mifflinburg, Union county, Bucknell University, Ph.B., issued June 19, 1909.

1869. Florence Yost Humphries, Towanda, Bradford county, Cornell University, Ph.B., issued June 19, 1909.

1870. James E. Clark, Elderton, Armstrong county, Westminster College, A.B., issued June 19, 1909.

1871. Mary K. Marshall, Karns City, Butler county, Wooster University, A.B., issued June 19, 1909.

1872. Gertrude C. Smith, West Chester, Chester county, Michigan University, A.B., issued June 19, 1909.

1873. William R. Conners West Chester, Chester county, Biddle College, A.B., issued June 19, 1909.

1874. William J. Braham, Grove City, Mercer county, Grove City College, PhB., issued June 19, 1909.

1875. Laura E. Thompson, New Wilmington, Lawrence county, Westminster College, Ph.B., issued June 19, 1909.

1876. Katherine McAlister, Irwin, Westmoreland county, Allegheny College, A.B., issued June 26, 1909.

1877. Pearl I. Kerr, Grove City, Mercer county Grove City College, Ph.B., issued June 26, 1909.

1878. Rebekah Washabaugh, Gove City, Mercer county, Grove City College, Ph.B., issued June 26, 1909.

1879. Dallas F. Green, Aquashicola, Carbon county, Muhlenberg College, A.B., issued July 7, 1909.

1880. Warren M. Beidler, Laury's Station, Lehigh county, Muhlenberg College, A.B., issued July 7, 1909.

1881. Bertram A. Strohmeier, Pottsville, Schuylkill county, Pennsylvania College, A.B., issued July 7, 1909.

1882. Schuyler G. Irwin, Schuyler, Montour county, Susquehanna University, A.B., issued July 7, 1909.

1883. Jennie Fitzgerald, Mt. Pleasant, Westmoreland county, Allegheny College, A.B., issued July 7, 1909.

1884. Cecil C. Bovard, Grove City, Mercer county, Grove City College, Ph.B., issued July 7, 1909.

1885. Anna J. Spears, Lonaconing, Md., Westmoreland county, Dickinson College, A.B., issued July 7, 1909.

1886. Wm. M. Gaylor, Rosecrans, Clinton county, Susquehanna University, A.B., issued July 7, 1909.

1887. Adelaide C. Ottaway, Sherman, N. Y., Washington county, Allegheny College, A.B., issued July 7, 1909.

1888. John W. Rutherford, Sligo, Clarion county, Grove City College, Ph.B., issued July 7, 1909.

1889. Anne Ayer Boyer, Pottsville, Schuylkill county, Bryn Mawr College, A.B., issued July 15, 1909.

1890. H. Lon Headland, Mars, Butler county, Grove City College, A.B., issued July 15, 1909.

1891. Edith A. Beck, Punxsutawney, Jefferson county, Woman's College, Baltimore, A.B., issued July 15, 1909.

1892. Alice Hutchison, Chicora, Butler county, Grove City College, Ph.B., issued July 15, 1909.

1893. Ethel Fitzsimons, Sandy Lake, Mercer county, Pittsburg University, A.B., issued July 15, 1909.

1894. W. D. Thompson, North Hope, Butler county, Grove City College, Ph.B., issued July 15, 1909.

1895. Warren A. Ziegenfus, Aquashicola, Carbon county, Muhlenberg College, A.B., issued July 15, 1909.

1896. J. Paul Burkhart, Bernville, Berks county, Princeton University, A.B., issued July 15, 1909.

1897. Charles M. Donley, Mt. Morris, Greene county, Waynesburg College, B.S., issued July 15, 1909.

1898. Elizabeth B. Wilson, Grove City, Mercer county, Grove City College, Ph.B., issued July 15, 1909.

1899. Ralph C. Gardner, York, York county, Franklin and Marshall College, Ph.B., issued July 21, 1909.

1900. F. D. Kingsley, Townville, Crawford county, Grove City College, Ph.B., issued July 21, 1909.

1901. T. Earl Kingsley, Grove City, Mercer county, Grove City College, Ph.B., issued July 21, 1909.

1902. Philip J. Lent, Mansfield, Tioga county, Grove City College, A.B., issued July 21, 1909.

1903. Howard E. Slagenhaup, Lancaster, Lancaster county, Franklin and Marshall College, A.B., issued, July 21, 1909.

1904. Alice L. Thomas, Conneaut Lake, Crawford county, Allegheny College, A.B., issued July 21, 1909.

1905. Mary M. Meyer, Rebersburg, Centre county, Bucknell University, A.B., issued July 21, 1909.

1906. Chauncey C. Lively, Waynesburg, Greene county, Waynesburg College, B.S., issued July 21, 1909.

1907. Halliday R. Jackson, Mauch Chunk, Carbon county, Swarthmore College, A.B., issued July 21, 1909.

1908. Joseph J. Kehler, Pottsville, Schuylkill county, Lafayette College, A.B., issued July 21, 1909.

1909. Otto W. Reichly, York, York county, Bucknell University, B.S., issued July 21, 1909.

1910. Wm. Ralph Croman, Hughesville, Lycoming county, Albright College, B.S., issued July 21, 1909.

1911. Edith Miller, Pittsburg, Allegheny county, Muskingum College, B.S., issued July 21, 1909.

1912. Effie A. Milliren, Reynoldsville, Jefferson county, Allegheny College, A.B., issued July 21, 1949.

1913. Mabel Mechling, Grove City, Mercer county, Grove City College, Ph.B., issued July 21, 1909.

1914. Claude L. Smith, York, York county, Antioch College, A.B., issued July 21, 1909.

1915. Nina Frances Raynor, Carbondale, Lackawanna county, Vassar College, A.B., issued July 21, 1909.

1916. W. D. Hinman, Monroeton, Bradford county, Bucknell University, A.B., issued July 21, 1909.

1917. Charles H. Auman, Spring Mills, Centre county, Pennsylvania College, A.B., issued July 21, 1909.

1918. Lois Henthorne, Pittsburg, Allegheny county, Scio College, Ph.B., issued July 21, 1909.

1919. Amos B. Moyer, Sunbury, Northumberland county, Lebanon Valley College, A.B., issued July 21, 1909.

1920. Anna Zoe Davis, Carlisle, Cumberland county, Bucknell University, Ph.B., issued July 22, 1909.

1921. Edna F. Kinter, Braddock, Allegheny county, Grove City College, A.B., issued August 7, 1909.

1922. Wm. H. Kretchman, Meyersdale, Somerset county, Franklin and Marshall College, A.B., August 7, 1909.

1923. Geo. M. Thompson, North Washington, Butler county, Grove City College, A.B., August 7, 1909.

1924. Isaac Edward Holsinger, Tyrone, Blair county, Juniata College, A.B., issued August 14, 1909.

1925. Margaret L. Pearce, Grove City, Mercer county, Grove City College, Ph.B., issued August 14, 1909.

1926. Isaac Doughton, Phœnixville, Chester county, Harvard University, A.B., issued August 14, 1909.

1927. Edna L. Mecham, Montandon, Northumberland county, Bucknell University, A.B. August 14, 1909.

1928. Frank L. Cloud, Conshohocken, Montgomery county, University of Pennsylvania, A.B., August 14, 1909.

1929. Ray G. Light, Avon, Lebanon county, Lebanon Valley College, A.B., issued August 14, 1909.

1930. Walter B. Sterrett, Sewickley, Allegheny county, Washington and Jefferson College, A.B., issued August 14, 1909.

1931. Ethel Talor MacCarthy, Mount Union, Huntingdon county, Swarthmore College, A.B., issued August 14, 1909.

1932. Ulysses A. Moyer, Benezette, Elk county, Susquehanna University, A.B., issued August 20, 1909.

1933. Maude Maenwaring, Grove City, Mercer county, Grove City College, Ph.B., issued August 20, 1909.

1934. Elizabeth Belle Noble, Greencastle No. 5, Franklin county, Irving College, B.S., issued August 20, 1909.

1935. Charlotte Barton, Mercer, Mercer county, University of Chicago, Ph.B., issued August 20, 1909.

1936. Oswin R. Clutter, Wind Ridge, Greene county, Grove City College, Ph.B., issued August 20, 1909.

1937. Mary E. Young, Lewisburg, Union county, Bucknell University, Ph.B., issued August 20, 1909.

1938. Geo. E. Walbert, Breinigsville, Lehigh county, Franklin and Marshall College, A.B., issued August 20, 1909.

1939. Laura G. Pound, Grove City, Mercer county, Grove City College, Ph.B., issued August 20, 1909.

1940. Clara B. Kistler, Marietta, Lancaster county, Pennsylvania College, A.B., issued August 27, 1909.

1941. Grayce Koofer, Altoona, Blair county, Grove City College, Ph.B., issued August 27, 1909.

1942. Wm. P. Spargrove, Pittsburg, Allegheny county, Washington and Jefferson College, A.B., issued August 27, 1909.

1943. Eleanor M. Vincent, Pittsburg, Allegheny county, Westminster College, A.B., issued September 9, 1909.

1944. James Bannen Swope, Turbotville, Northumberland county, Susquehanna University, A.B., issued September 9, 1909.

1945. J. Walter Shearer, Connellsville, Fayette county, Dickinson College, Ph.B., issued September 9, 1909.

1946. Miles G. Morris, Brockwayville, Jefferson county, Grove City College, Ph.B., issued September 9, 1909.

1947. G. M. Haar, Hanover, York county, Pennsylvania College, B.S., September 9, 1909.

1948. Norman C. Koontz, Indiana, Indiana county, Grove City College, A.B., issued September 9, 1909.

1949. Ivah Mary Carver, Ridgway, Elk county, Syracuse University, A.B., issued September 9, 1909.

1950. Elizabeth Briton Meek, Allenwood, Union county, Bucknell University, A.B., issued Sept. 18, 1909.

1951. V. V. Johnston, Ellwood City, Lawrence county, Geneva College, B.S., issued September 18, 1909.

1952. Geo. Foster Bailets, Lewisburg, Union county, Bucknell University, Ph.B., issued September 18, 1909.

1953. Robt. J. Lane, Richfield, Kansas, Washington county, Washington and Jefferson College, B.S., issued Sept. 21, 1909.

1954. Grace Meek, Reynoldsville, Jefferson county, Bucknell University, Ph.B., issued September 21, 1909.

1955. Ethel J. Canfield, Cambridge Springs, Crawford county, Allegheny College, A.B., issued Sept. 24, 1909.

1956. M. H. Dewey, Irwin, Westmoreland county, Allegheny College, A.B., issued September 24, 1909.

1957. L. H. Peffer, Franklin, Venango county, Grove City College, Ph.B., issued September 24, 1909.

1958. Jacob B. Sheetz, Lancaster, Lancaster county, Franklin and Marshall College, A.B., issued Sept. 24, 1909.

1959. Esther L. Eisenhower, Norristown, Montgomery county, Swarthmore College, A.B., issued October 8, 1909.

1960. Clare Cook, Burgettstown, Washington county, Grove City College, Ph.B., issued October 8, 1909.

1861. Hettie Hundertmark, Waynesburg, Greene county, Waynesburg College, A.B., issued October 8, 1909.

1962. Richard D. Hays, Espyville Station,

Crawford county, Grove City College, Ph.B., issued October 8, 1909.

1963. Elizabeth H. Frey, Oil City, Venango county, Allegheny College, A.B., issued October 28, 1909.

1964. Cora L. Frey, Lancaster, Lancaster county, Albright College, B.S., issued October 28, 1909.

1965. Walter Scott, Pittsburg, Allegheny county, Yale University, A.M., issued November 5, 1909.

1966. Irene F. Donahey, Allegheny, Allegheny county, Univ. of Pittsburg, Ph.B., issued November 5, 1909.

1967. H. A. Briggs, Reading, Berks county, Lafayette College, A.B., issued November 5, 1909.

1968. Helen L. Hall, West Chester, Chester county, Wellesley College, A.B., issued November 5, 1909.

1969. J. Norman Hunter, Grove City, Mercer county, Grove City College, A.B., issued November 5, 1909.

1970. Mary Estella Smith, Carlisle, Cumberland county, Dickinson College, Ph.B., issued Nov. 5, 1909.

1971. Mary Lee Mason, Scranton, Lackawanna county, University of Chicago, A. B., issued Nov. 10, 1909.

1972. Horace B. Ritter, Hellertown, Northampton county, Muhlenberg College, A.B., issued November 18, 1909.

1973. Irvin O. Noll, Bellefonte, Centre county, Pennsylvania State College, B.S., issued Nov. 18, 1909.

1974. Emily Schell Statler, Bedford, Bedford county, Wilson College, A.B., issued November 23, 1909.

1975. James M. Lohr, Norristown, Montgomery county, Franklin and Marshall College, A.B., issued Nov. 30, 1909.

1976. Rachel Knight, Somerton, Philadelphia, Swarthmore College, A.M., issued Dec. 14, 1909.

1977. Mabel Sill, Kane, McKean county, Bucknell University, Ph.B., issued Dec. 16, 1909.

1978. Joel C. Oldt, Euclid, Ohio, Snyder county, Albright College, A.B., issued December 30. 1909.

ITEMS FROM REPORTS.

ARMSTRONG.—Supt. Patton: Local institutes were held at Manorville, Sagamore, Goheenville, Rockville and West Kittanning. The last-named meeting was addressed by Mr. J. M. Berkey, of the Pittsburgh schools, and by Supt. F. W. Goodwin.

BERKS.—Supt. Rapp: Boyertown has erected another eight-room building of brick and equipped with all modern appliances, at a cost of $18,000. An improved fire-alarm system is one of the features.

CLINTON.—Supt. McCloskey: The annual meeting of the directors' association was attended by 162 out of 180 in the county. H. I. Painter, Esq., of Butler, gave two excellent addresses on School Law and School Management. Our teachers have stimulated the attendance of pupils by offering rewards for full attendance during the term.

CUMBERLAND.—Supt. Green: Institutes were held at Hogestown, Boiling Springs, Middlesex, Bloserville, Newburg, Churchtown and Lemoyne; educational meetings at Wilson's and Mt. Allen's schools. The annual meeting of the directors' association was held at Newville. In spite of the heavy rain there was a good attendance. Hon. Henry Houck delivered two excellent addresses.

ERIE.—Supt. Russell: Four school directors represented Erie county at the recent State Directors' Association in Harrisburg. It is a source of just pride to the county that one of her representatives, Mr. C. C. Hill, of North East, was elected president of the Association for the ensuing year. This honor also comes as a fitting reward for ability and faithful service rendered. Mr. Hill is a graduate of a New York State Normal School, taught several years in Chautauqua county, N. Y., and served six years in the same county as School Commissioner. He has served three terms as school director in North East borough and was recently re-elected by a large majority; he has also attended nearly every State Directors' Association since he became a director. Mr. Hill is not only eminently qualified for the high position to which he has been elected, but is a man who "does things," and we commend the Association upon its wise choice for presiding officer.

FOREST.—Supt. Morrison: Howe township has put wash sinks into all the school-houses. Excellent local institutes were held in Tionesta, Barnett, and Jenks. An old-fashioned spelling bee was held in Marienville, in which upwards of forty took part. Farmers' institutes were held at Clarington and Tionesta with educational sessions of interest to all.

FULTON.—Supt. Lamberson: The annual directors' convention was held under very unfavorable weather conditions; only sixteen directors were present. Deputy Supt. Teitrick was our special help. It is to be regretted that more of our directors could not be present. His talks were practical and inspiring. We feel that those who heard him are better qualified to discharge their important duties. A new library has been put into the Pughtown school under Miss Rinedollar.

HUNTINGDON.—Supt Dell: The leading educational event was the meeting of the directors' association with an attendance of 150. Excellent instruction was given by Deputy Supt. Teitrick. I have conducted educational meetings in Henderson, Three Springs, Dudley and Hopewell districts, all of which were well attended.

JUNIATA.—Supt. Deen: Local institutes were held at Thompsontown, Academia, Port Royal and McCoysville, all of which were well attended. The discussions were animated. At Thompsontown, Dr. Byron C. Pratt delivered an excellent lecture on American Morals. At Academia Prof. F. F. Holsopple, of Juniata College, spoke of "Live Issues for Live Americans."

LACKAWANNA.—Supt. Taylor: Throop has finished the addition to the Boulevard school and now has 20 good schoolrooms with 20 teachers. Dickson City has completed a fine high school building at a cost of about $50,000. The enforcement of the new child labor law has brought back into the Dickson schools about 200 boys and girls who have been working in silk mills and coal breakers. Similar results in other mining towns seem to prove that this law will help to diminish the child slavery which exists in the anthracite region. Reports from teachers in the rural districts

where the new Waterman heating and ventilating plants have been installed show that these plants are giving good service.

LEBANON.—Supt. Snoke: This year's directors' convention was better attended than any heretofore—101 of our 126 directors being present. The speakers were Deputy Supt. Teitrick, Dr. C. C. Ellis and Dr. F. H. Green.

MIFFLIN.—Supt. Wills: February 22 was observed as Patrons' Day throughout the county. Special exercises were held in many of our schools and there was a good turn-out of the patrons.

MONROE.—Supt. Koehler: Our directors' convention was a notable event. More than two-thirds of the directors were persent. Besides the local speakers Supt. Rapp, of Berks county, gave two interesting addresses.

NORTHAMPTON.—Supt. Grim: The majority of our teachers have been attending our local institutes. All the programmes were rendered as printed. History was a special subject of discussion at each institute. The educational sessions at our Farmers' Institutes were well attended, and much good is accomplished through these meetings. Many of the schools have erected fine flag-poles. Several schools celebrated the Lincoln and Washington birthdays with appropriate exercises.

NORTHUMBERLAND.—Supt. Fetzer: On February 26, Mr. William H. Hoy died. For a number of years Mr. Hoy was a member of the School Board of Northumberland and always took an active interest in the schools. He believed in good schools, and advocated those things which he considered would be for the good of the pupils. The new building in Turbut district is well finished. Improved grounds greatly add to the appearance of the new house.

PERRY.—Supt. Kline: The annual directors' convention was well attended. Dr. W. May Rosselle delivered an interesting lecture and Dr. N. C. Schaeffer made two strong addresses. A series of seven local institutes closed with a successful and spirited meeting in Duncannon.

POTTER.—Supt. Welfling: The fire which destroyed "The Potter Enterprise" (a newspaper) destroyed much of my office fixtures, etc., and damaged the rest. Three helpful local institutes were held at Germania, Harrison Valley and Sweden Valley this month. Inspector C. D. Koch did excellent work with us this month.

SCHUYLKILL.—Supt. Seltzer: Middleport has just completed a fine six-room building. Considering the cost it is the best building of this type in the county.

SUSQUEHANNA.—Supt. Stearns: In connection with the meeting of the county association, Dr. Hunt, of the University of Pennsylvania delivered an address upon Physically Defective Children. It was a forceful presentation of the subject and within the comprehension of a mixed audience. All teachers and parents present were benefited.

UNION.—Supt. Spigelmyer: The directors' convention was attended by 80 per cent. of the members. Supt. Lose, of Williamsport, gave us two fine talks. In my visitations in Buffalo and Kelly townships the school boards accompanied me in a body. In both these townships the Waterbury heating and ventilating plant is giving satisfaction. In the death of Dr. George Groff our county lost one of its leading educators. He was untiring in his efforts to elevate and improve, a public servant of the highest rank, and a good Christian gentleman.

WAYNE.—Supt. Koehler: The laboratory of the new Honesdale high school has been equipped with a very complete set of apparatus. Besides the regular material for working all the experiments in physics and chemistry required for entrance to college, there is a wireless telegraph outfit, and a complete set of Bock-Steger anatomical models. The new equipment cost about $1,000.

BANGOR.—Supt. Gruver: Our teachers secured Prof. Earl Barnes to deliver a course of lectures last month. His subejct was The Development of the Moral Nature. The lectures were interesting and beneficial.

BRADFORD.—Supt. Schermerhorn: Our Board has secured the use of the local Y. M. C. A. gymnasium and the services of its physical instructor for our High School students, and classes are reporting regularly for work along that line. We would, of course, prefer a gymnasium of our own but feel that we are fortunate in being able to make the present arrangement.

LOCK HAVEN.—Supt. Ling: Some visual instruction material from the Philadelphia Commercial Museum has been used with good results. The University Extension lectures under the auspices of the teachers' association are a growing success. A literary-oratorical contest is being arranged in the several classes of the high school. The board of education will offer a medal for superiority in debate among the seniors. The high school alumni association will present a medal to the member of the junior class who excels in oratory. Private individuals will provide prizes for essay and declamation contests among sophomores and freshmen. Warner's Library of Literature and some other reference works have been placed in the high school library.

SUNBURY.—Supt. Ellenburger: We have opened a fine eight-room building in the first ward, at a cost of $35,000. Plans have been adopted for, and work will soon begin upon, another eight-room building in the seventh ward to cost about $30,000. In the ninth ward a lot has been bought for $3,900, upon which another eight-room building will be erected.

TYRONE.—Supt. Fleck: The number of pupils in attendance at every session of school during the month was 661, notwithstanding bad weather and the mumps. Washington's birthday was celebrated in all our schools. Besides a delegation from the local post of the G. A. R., 1,140 patrons visited the schools on this day.

WILKINSBURG.—Supt. Allison: The board has established a system of medical inspection in our schools. The work is conducted by three practicing physicians of the borough. The people are in sympathy with the movement and are doing all they can to co-operate with the physicians.